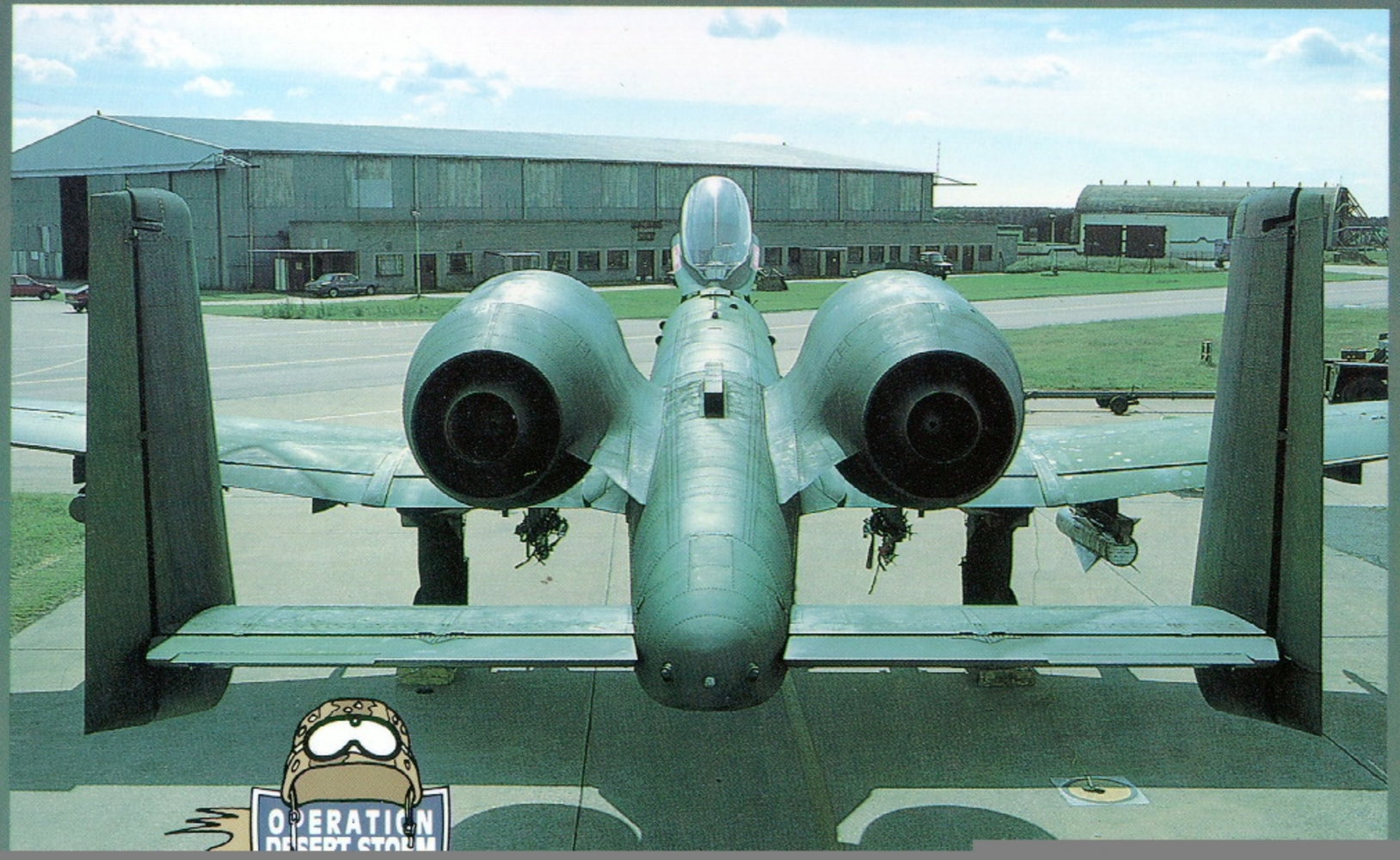
LOCK ON N°7

AIRCRAFT PHOTO FILE

A-10 THUNDERBOLT



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DEDICATION

To the pilots flying the A-10 at RAF Bentwaters and RAF Woodbridge, for doing a magnificent job and for being ready whenever we will need them.

ACKNOWLEDGEMENTS

Several people have again been involved in the making of this Lock On. Without their permission and their willingness to assist, we would not have been able to publish it, and you would not be eagerly looking forward to finally finishing that A-10 model which has been gathering dust on the top shelf of your model collection.

So, my deepest appreciation for their assistance is going to Lt.Col Robert A. BRUS, former Director of Public Affairs, HQ 3rd Air Force(USAFE) who instructed Bentwaters to make my visit as smooth and hassle-free as it turned out to be. To Lt.Col GIEMMO, his successor at HQ 3rd Air Force(USAFE), Mildenhall for taking over the moment Lt.Col BRUS left office.

My sincere thanks to Capt.BOYLE, Chief of Public Affairs at RAF Bentwaters who, despite his TDY absence, arranged for my visit as requested and to the lovely lady in his office who welcomed us with a smile.
Most of all, I would like to thank Msgt Dominic DONELLI who, in his own polite way of handling managed to anticipate the unforseen and finally got us what we needed to make this book to what it is. I would like to congratulate him on a job well done.
Further, my thanks to Col. DEMBROWSKI for allowing me to strip his aircraft for the photo-session and to both Ssgt Tim Kruger and Ssgt William G. DEMERS for their assistance during the actual shooting of the pictures.

Thanks to my assistant on the trip who doesn't want to be mentioned but who, nevertheless,proved to be a great help.
To those I have forgotten to mention, my sincere apologies.

The author

SCALE PLANS

We regret to announce the deletion of the 1/72nd and 1/48th scale plans from this book on.
In a time where nearly each kit released is of such high standard, we opted for the omission of a work-intensive scale plan in favor of a more frequent publishing schedule of the Lock On books.
For those who have appreciated these scale plans in past issues, we can only offer you the same amount of full color pictures, most likely larger and most certainly on a more frequent basis.
Like we have said before, we don't pretend to publish the most complete book on a subject, but we believe we offer a comprehensive full-color coverage which still enables every enthusiast to get to know the airplane better and which enables every modeler to pursue a grade of authenticity, even without the inclusion of a scale plan.
We hope you feel this way too.

81st Tactical Fighter Wing, RAF Bentwaters and RAF Woodbridge
A-10A Thunderbolt II
78th TFS, 91st TFS, 92nd TFS, 510th TFS

The twin bases of RAF Bentwaters and RAF Woodbridge, home of the 81st Tactical Fighter Wing, are located some 87 miles northeast of London. The wing, which operates the A-10 and the F-16 aircraft, has approximately 4,550 military and 282 civilians assigned to fulfill the major task of the 81st TFW, close air support and dissimilar air combat training.

The 81st TFW consists of four squadrons of 18 A-10 aircraft eachand one squadron of 12 F-16 aircraft. Two of the squadrons, the 78th and 91st TFS, are located at Woodbridge. The remaining three, the 92nd and 510th TFS and the 527th Agressor Squadron, are located at RAF Bentwaters. The A-10 squadrons rotate aircraft to the three forward operating locations in Germany; Sembach, Leipheim and Norvenich. The A-10 squadrons are organized under the concept of forward employment and rearward maintenance.
A-10 training conducted during deployments to air bases in Germany familiarizes pilots with the close air support environment in which they would operate in case of hostilities.

The heritage of the 81st Tactical Fighter Wing dates from 13 January 1942, when the 81st Fighter Group was first activated. Since then, the Group, and later, the wing, has filled a diverse and exciting role in the defense of the western world. During WWII, the 81st was active in both the European and Pacific theaters.
The group was active in North Africa from 8 November 1942 untill January 1943 when it supported ground operations during the Allied drive against Axis forces in Tunesia. From April to July 1943, the 81st patrolled the coast of Africa and protected Allied shipping in the Mediterranean Sea.
The 81st moved to the Pacific theater in February 1944, where they provided for the defense of India and mainland China. They remained in China after the War until 27 December 1945. Follow on moves took the wing from Hawai to New Mexico, Washington and finally the United Kingdom. The wing arrived at RAF Bentwaters in September 1951 and RAF Woodbridge was first used by the 81st TFW in 1958. The transition from F-4 to A-10 began in 1978 and with it came the close air support mission, 3 new squadrons and 4 forward operating locations in Germany.

A-10 squadrons assigned to the 81st TFW.

The 78th TFS, "The Bushmasters", was first organized on Feb 18, 1918 at Waco, Texas. Over the years they flew aircraft like the P-26, P-36, P-39, P-40, F-86, F-84, F-101, F-4C and F-4D untill they converted to the A-10 in May 1979.

The 91st TFS, "The Blue Streaks", was originally activated in 1942 when they flew missions over North Africa and the Mediterranean. They flew virtually the same aircraft with the addition of the P-51 and were the first squadron to be assigned to the 81st TFW. They received their A-10's in July 1979.

The 92nd TFS, nicknamed "The Skulls", constituded on Jan 13, 1942. Originally flying the P-39 and the P-38, they played an active role in WWII. F-80, F-86, F-84 and subsequently the same century fighters as mentioned above were the aircraft flown by this squadron until on Jan 26, 1979 they became the first operational A-10 squadron in Europe.

The final squadron flying the Hog from RAF Bentwaters is the 510th TFS, "The Buzzards". Formed on Feb 24, 1943 at Drew Field, Florida, flying the A-24 within the 405th Bombarment Group. Redesignated Fighter Bomber Group they are the only squadron at Bentwaters to have flown the F-100. Based at Bien Hoa Air Base in Vietnam, they flew more than 27,200 combat missions. On Oct 1, 1978 they became the second operational A-10 squadron at RAF Bentwaters.

If you were asked when the first prototype of this Fairchild Replubic design rolled out, would your answer have been 1972 ? It's amazing this fairly new and exciting looking aircraft is reaching its 20th birthday two years from now.

The A-10A "Thunderbolt II" or "Warthog" (no airplane can do without a nickname) is a single-seat, twin-turbofan aircraft developed to defeat a potential enemy ground threat. All of the necessary attributes in performing the close air support mission are built into the A-10 such as responsiveness, lethality, simplicity and most of all survivability.

Versatility and flexibility of the A-10 are best displayed by its large payload, long loiter time and wide radius capabilities. It can loiter for hours within the battle area where it can operate under 1,000-foot ceilings with less than two-miles' visibility. This makes the A-10 highly responsive to the immediate needs of an army combat commander. Short take-off and landing distances permit operation in and out of forward operating locations near the front lines.

The A-10 can carry up to 16,000 lbs of mixed conventional and laser-guided weapons, rockets, cluster bomb munitions and dreadful Maverick missiles. Additionally, it contains electronic countermeasure devices, chaff and flare pods.

Mounted internally along the aircraft's center line is the real business end of this mighty machine, a Gau-8A gun system capable of firing at either 2,100 or 4,200 rounds (!) per minute. It uses 30mm shells, which ensure a high probability of a tank kill on a single strafing pass. Many of us have seen the video released by Fairchild, where the A-10 demonstrated its tank-killing ability by destroying a genuine T-62 tank with one- and two-second bursts.

In addition to the armor-piercing projectile which is capable of penetrating medium and heavy tanks, the gun fires high explosive ammunition which is extremely effective against a wide variety of other targets such as trucks, armored personnel carriers and other vehicles. Who was it that said : "I'd rather be flying ?".

Add to that the extreme maneuverability of the A-10 allowing the pilot to deliver his ordnance quickly, even under adverse weather and poor visibility.

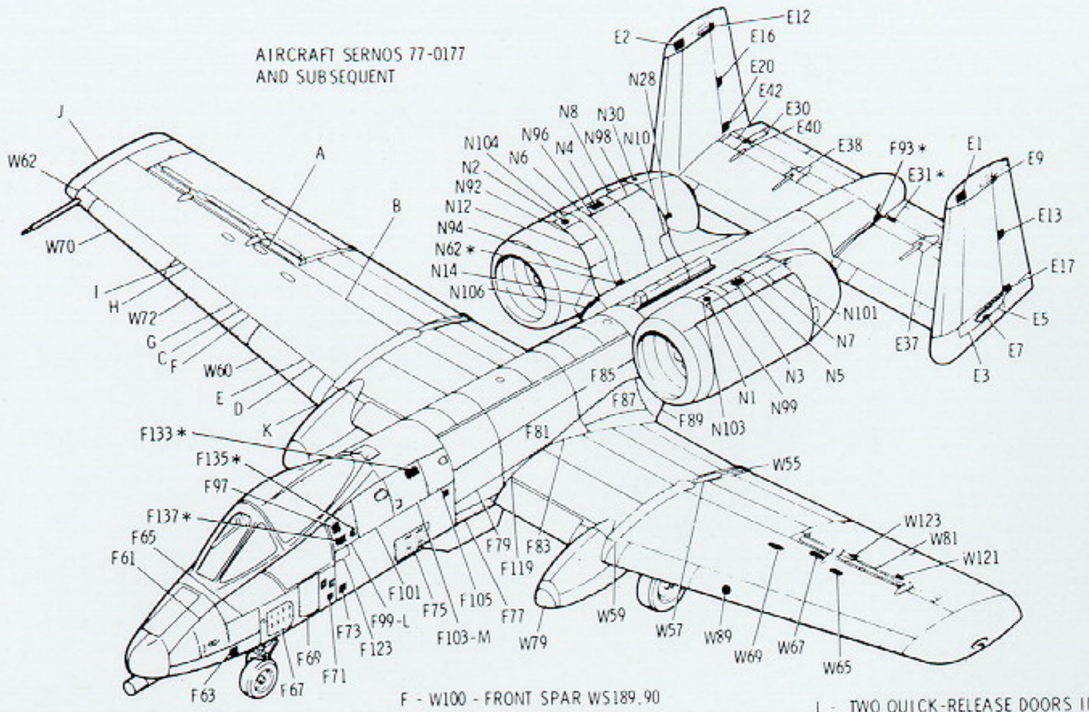
The Hog is powered by two quiet smokeless General Electric TF34-100 turbofan engines, each generating 9,000 lbs of thrust.

Ruggedness, reliability and ease of maintenance have been primary considerations in this simple design. The structure is conventional with approximately 95 percent of the airframe constructed from aluminum. Numerous aircraft parts are interchangeable left and right, including the engine, main landing gear and vertical stabilizers.

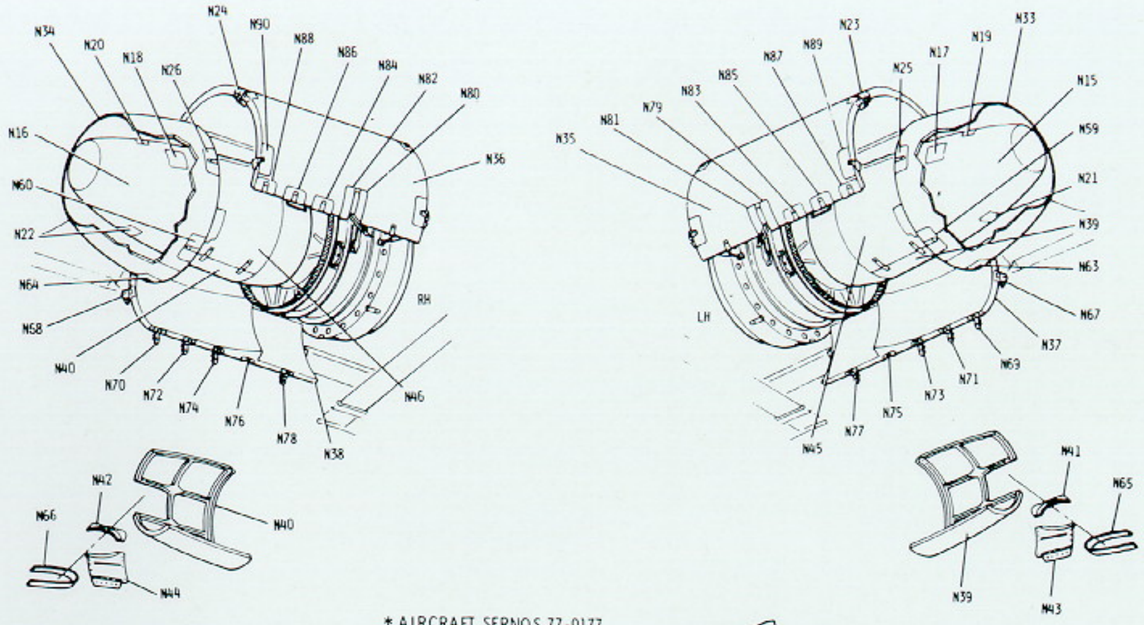
The A-10 achieves its survivability through a combination of high maneuverability at low air speeds and altitudes plus a titanium armorplate "bathtub" which encircles the pilot and which also protects the vital elements of the flight control system. Redundant primary structural elements can survive major damage. Self-sealing fuel cells are protected with internal and external foam. The primary hydraulic flight control system is further enhanced by a manual backup system which allows the pilot to fly and land the aircraft when all hydraulics are lost. A pilot once said : "Even if it had no more wings, one engine and the rest of my tail gone, I'll bring it home !".

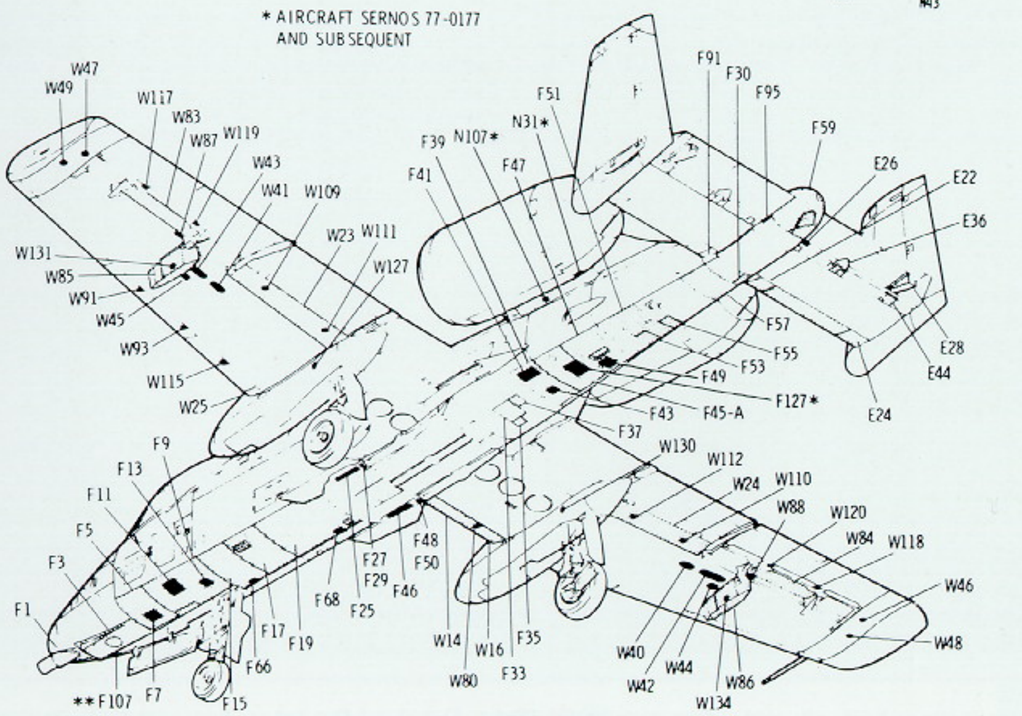
The introduction of the AH-64 Apache helicopter to the battle scene seems to have numbered the days of this magnificent aircraft, but no doubt it will play a vital role in ground target destruction for many years to come. The threat from the East may have diminished but it's always better to be prepared than to be sorrow afterwards.

ACCESS DOORS & INSPECTION PANELS

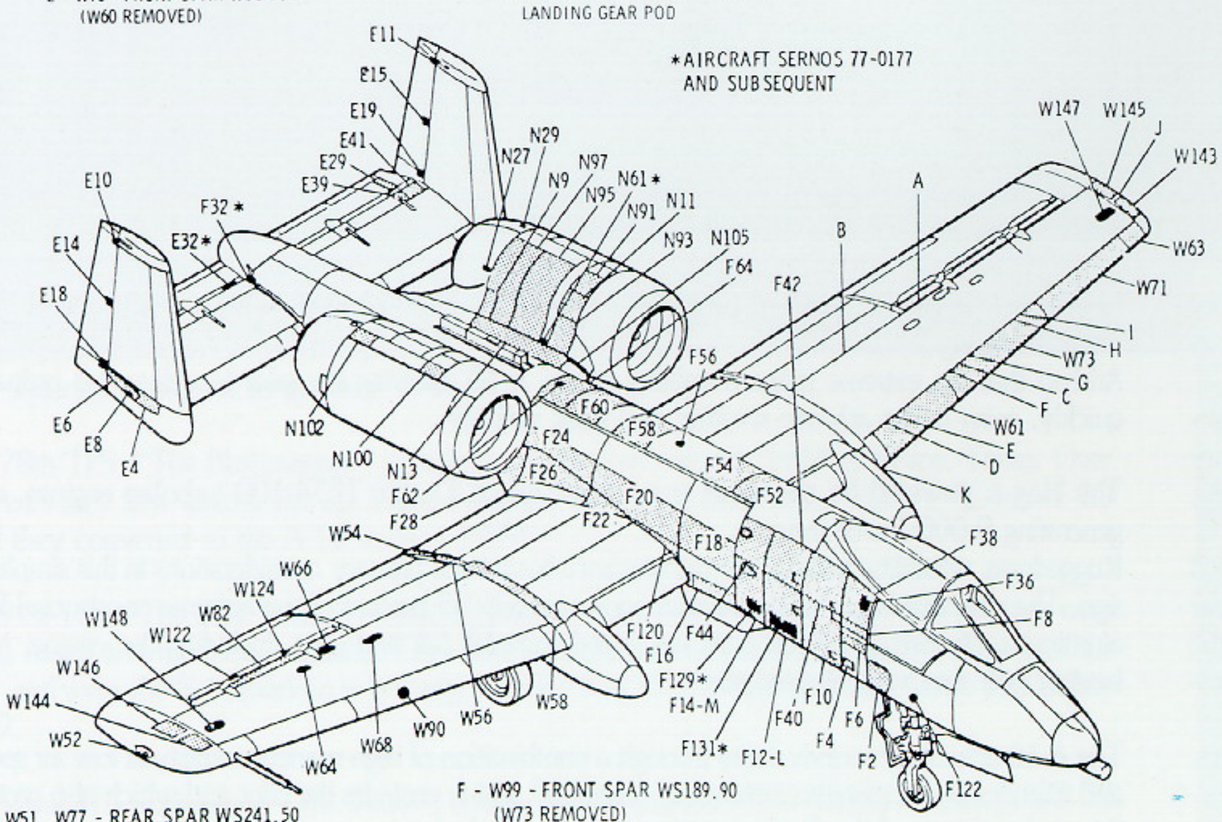


A - W50, W78 - REAR SPAR, WS241.50 (AILERON REMOVED)
B - W76, W136, W138, W140, W142 - REAR SPAR BETWEEN WS117.27 AND WS241.50 (FLAPS LOWERED)
C - W18 - FRONT SPAR BETWEEN WS110 AND WS190 (W72 REMOVED)
D - W96 - FRONT SPAR WS139.25 (W60 REMOVED)
E - W98 - FRONT SPAR WS147.07 (W60 REMOVED)
F - W100 - FRONT SPAR WS189.90 (W72 REMOVED)
G - W102 - FRONT SPAR WS191.14 (W72 REMOVED)
H - W104 - FRONT SPAR WS224.25 (W72 REMOVED)
I - W106 - FRONT SPAR WS237.32 (W72 REMOVED)
J - W108, W126 - BORESIGHT COVER ACCESS (WING TIP EXTENSION REMOVED)
K - W20 - AFT OF MID SPAR IN RIGHT LANDING GEAR POD
L - TWO QUICK-RELEASE DOORS IN F99 FOR PRE-SETTING IFF MODE 4 AND SECURE VOICE (AIRCRAFT 77-0177 AND SUBSEQUENT)
M - QUICK-RELEASE DOOR IN F103 FOR PRE-SETTING IFF MODE 2 (AIRCRAFT 77-0177 AND SUBSEQUENT)

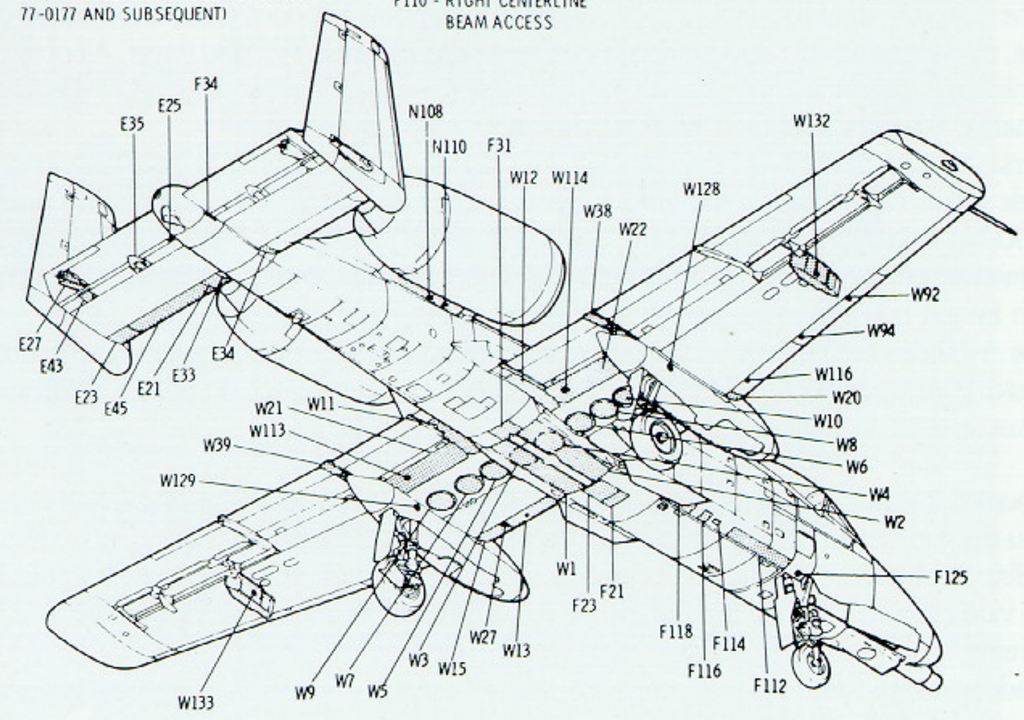




** F106 - NOSE BEAM ACCESS
F108 - NOSE BEAM ACCESS
F109 - LEFT CENTERLINE BEAM ACCESS
F110 - RIGHT CENTERLINE BEAM ACCESS
A - F45 QUICK-RELEASE DOOR IN F45 FOR ACCESS TO APU HYDRAULIC TRANSFER VALVE SELECTOR HANDLE (AIRCRAFT 77-0177 AND SUBSEQUENT)

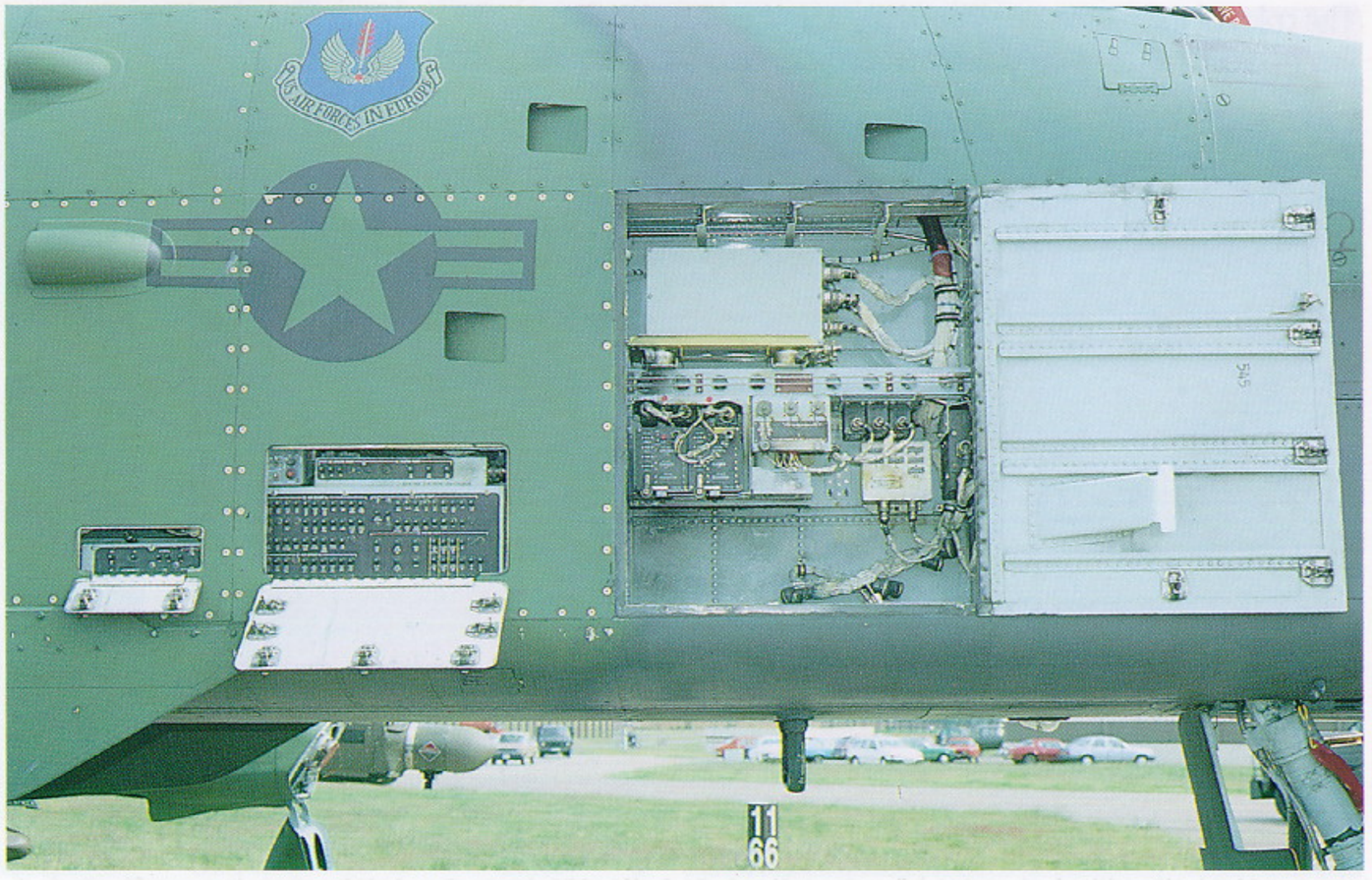


A - W51, W77 - REAR SPAR WS241.50 (AILERON REMOVED)
B - W75, W135, W137, W139, W141 - REAR SPAR BETWEEN WS117.27 AND WS241.50 (FLAPS LOWERED)
C - W17 - FRONT SPAR BETWEEN WS110 AND WS 190 (W73 REMOVED)
D - W95 - FRONT SPAR WS139.25 (W61 REMOVED)
E - W97 - FRONT SPAR WS147.07 (W61 REMOVED)
F - W99 - FRONT SPAR WS189.90 (W73 REMOVED)
G - W101 - FRONT SPAR WS191.14 (W73 REMOVED)
H - W103 - FRONT SPAR WS224.25 (W73 REMOVED)
I - W105 - FRONT SPAR WS237.32 (W73 REMOVED)
J - W107, W125 - (BORESIGHT COVER ACCESS) (WINGTIP EXTENSION REMOVED)
K - W19 - AFT OF MID SPAR IN LEFT MAIN LANDING GEAR POD
L - TWO QUICK-RELEASE DOORS IN F12 FOR PRE-SETTING IFF MODE 4 AND SECURE VOICE (AIRCRAFT 77-0177 AND SUBSEQUENT)
M - QUICK-RELEASE DOOR IN F14 FOR PRE-SETTING IFF MODE 2 (AIRCRAFT 77-0177 AND SUBSEQUENT)



(Courtesy US Air Force)

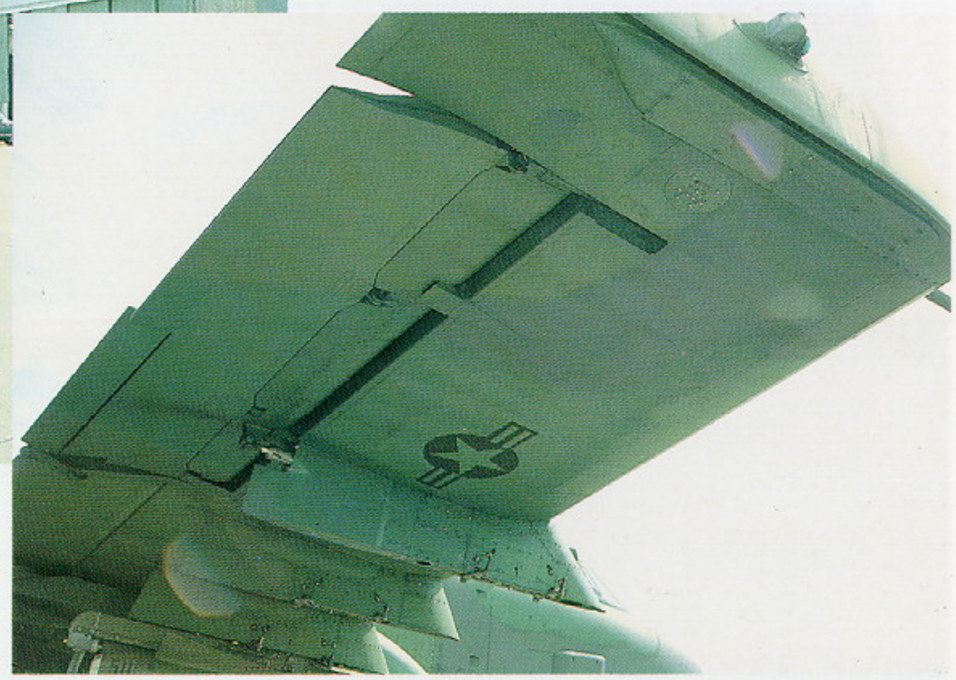
The right forward nose section where the pilot starts his pre-flight walkaround. Prior to strapping in and cranking up, a full exterior check-up is executed by the pilot, accompanied by the crew chief. If the pilot is convinced the aircraft still has both its wings, tail and engines, he takes full responsibility over the aircraft by signing the logbook.
This side view of the nose section shows the remarcable side-mounted pylon to hold the Pave Penny laser designator (not installed here). The bottom right picture shows the quick-release hatches of the right electronics bay which can be opened for flight-line inspection.
Note the cooling air intakes and exhausts.



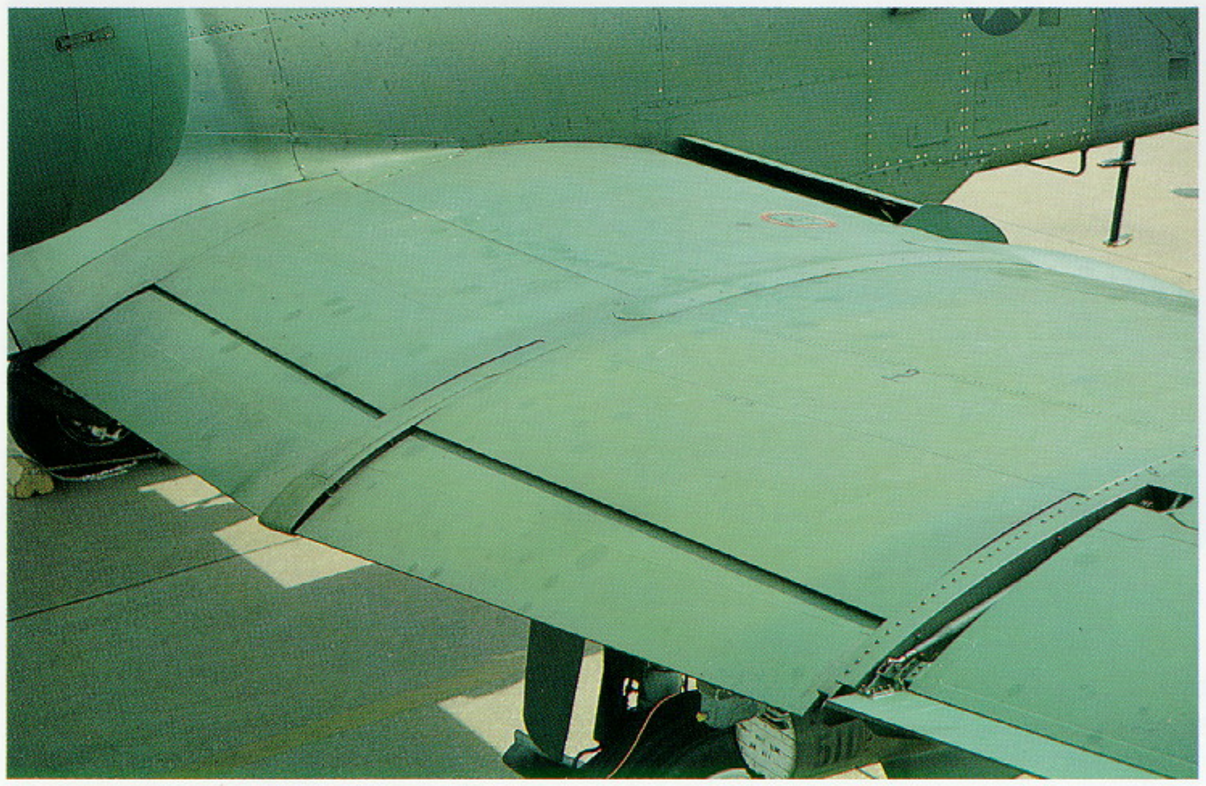
Three small BDU-33 practice bombs attached to a TER-9 or Triple Ejector Rack which is mounted to underwing station number 8.
Note the different color of the TER-9 and the red and white stencilling.

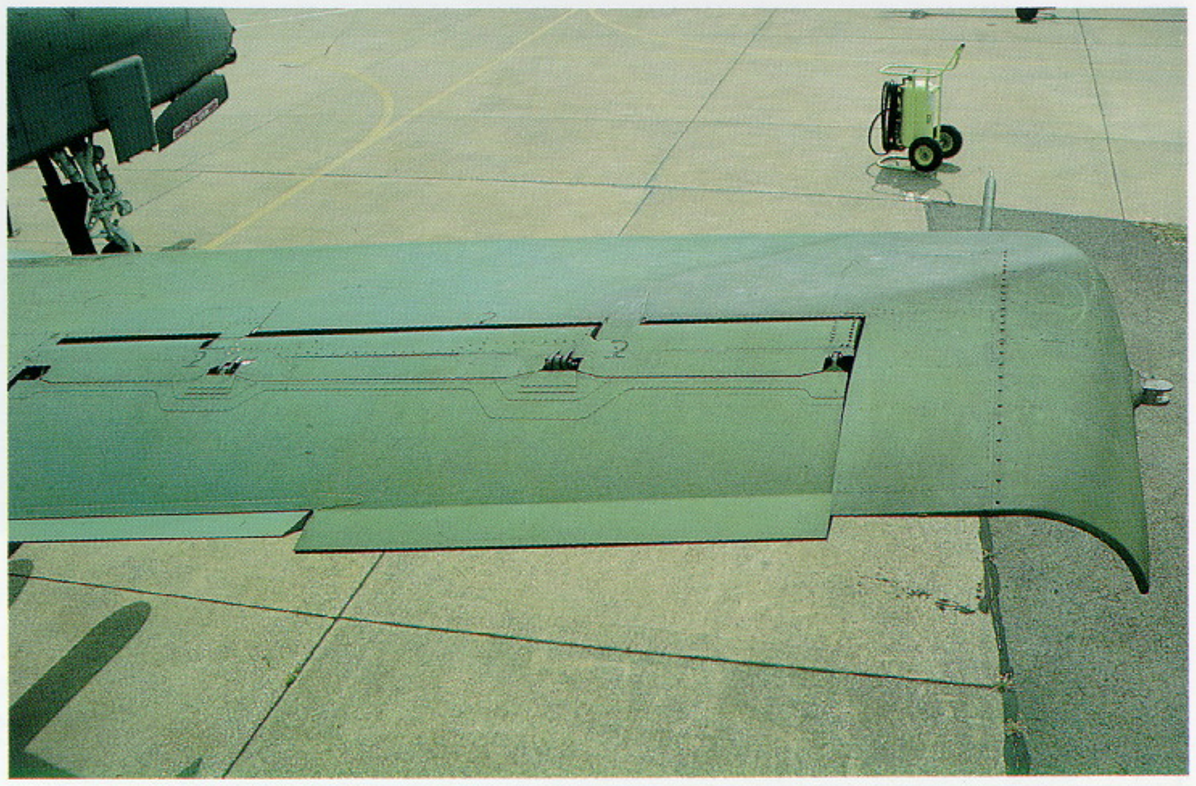
Pylon station number 10 and 11, the latter being the outmost hardpoint. Note this pylon is lacking the bulb just underneath the wing surface and the floodlight aft on the same pylon. This floodlight is used to illuminate the cockpit area during night-time operations.

Left and right view of an inert version of the dreadful AGM-65B Maverick missile. The missile is mounted to a special launching rail underneath hardpoint number 9. Although not armed and lacking the motor and the guidance fins, this missile provides the pilot with TV images for simulated missile runs. The color of the missile and launch rail is similar to the TER-9 described above. The blue bands indicate this Maverick is used only for practice purposes.



A different look at the underwing stores. Note the aileron actuating rod protruding from the rear of pylon 11, making the rear end of this pylon much wider than pylons 9 and 10. The picture at right shows the covered flare dispenser and wingtip navigation light. Part of the wingtip pitot-static boom can still be seen at right. Both bottom pictures show the right upper wing from above. Note the aileron trailing edge pitchup and the drooped wingtip.

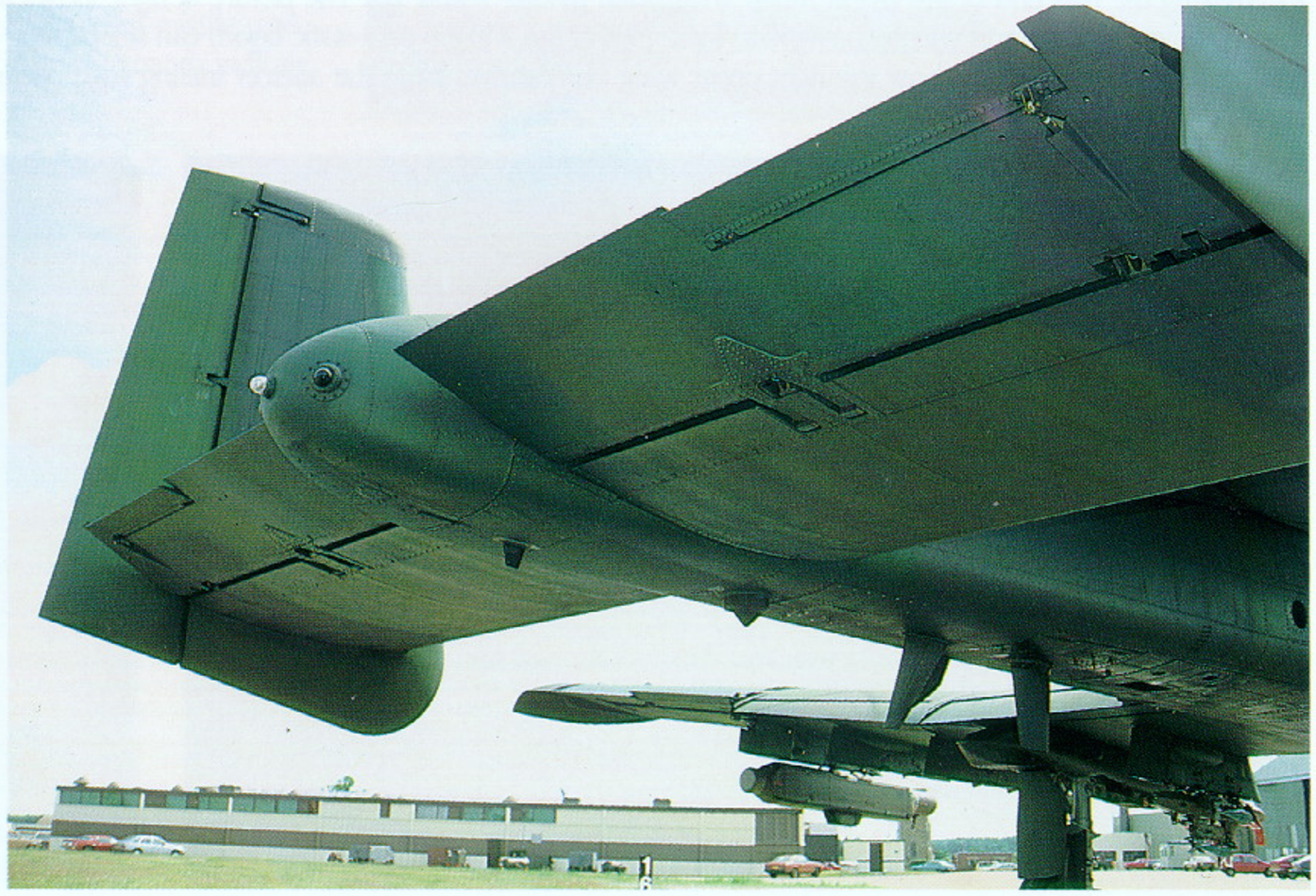


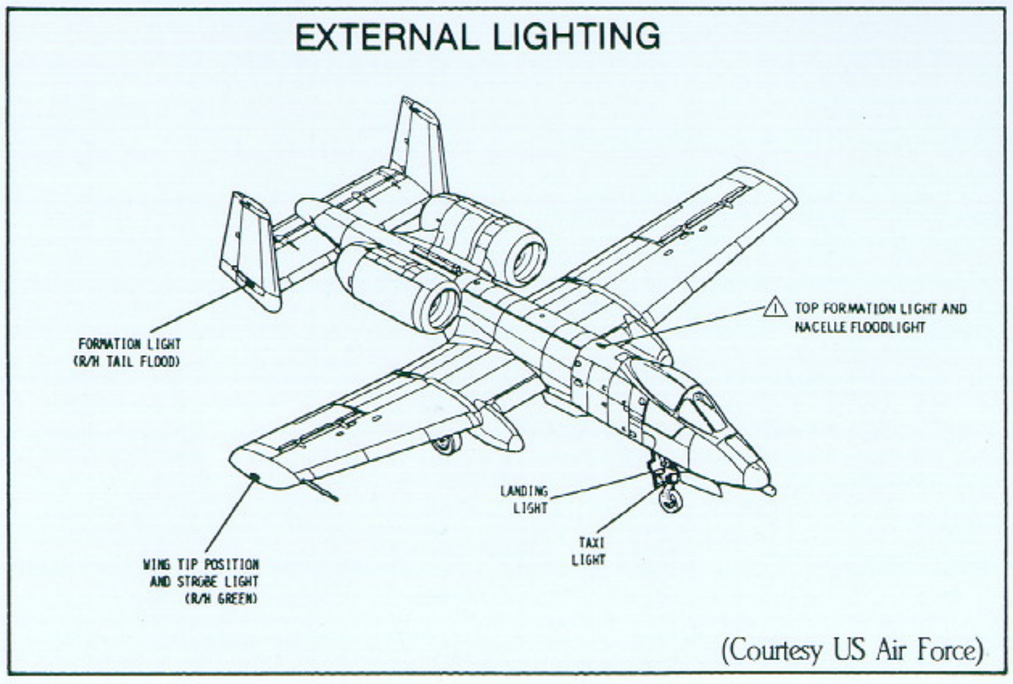


The General Electric TF-34-100 turbofan engines are mounted inside two huge engine nacelles placed on either side of the fuselage, above and behind the wings. A very distinctive A-10 characteristic which made this aircraft earn its nickname. Nevertheless, placing the engines way above groundcrew handling level has the great advantage of being less vulnerable to FOD (Foreign Object Damage) when taking off from rough airfields. They can also be left running while the ground crew refuel and reload the aircraft without the danger of being sucked in by the large air intakes.

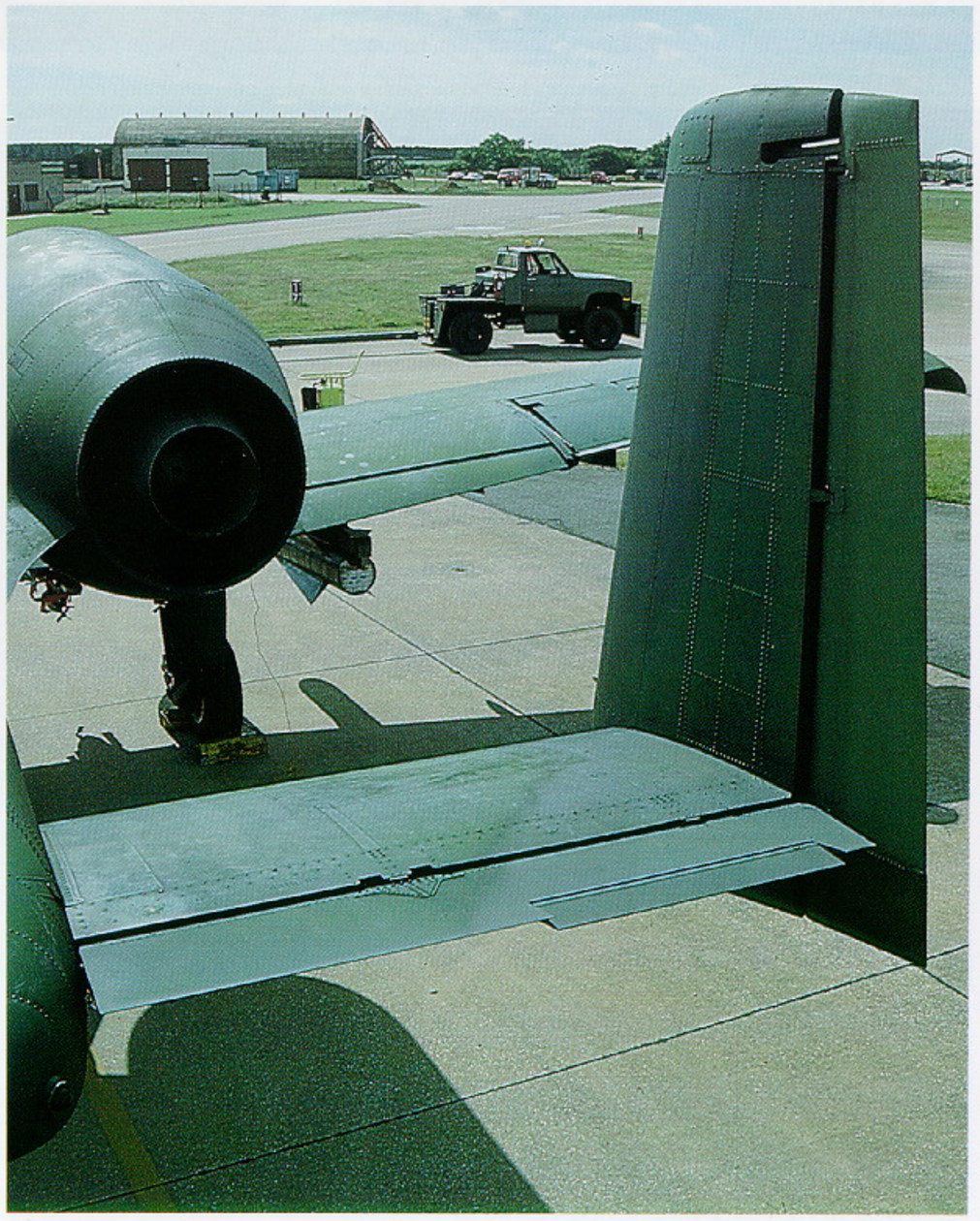
The left picture provides a close look at the very odd shaped vertical tail with the full-length rudder. Note the formation light and the colorful fin band.

The picture below shows the elevators and their trim tabs on either side of the tailcone on which the right radar warning receiver and the center navigation light are evident.



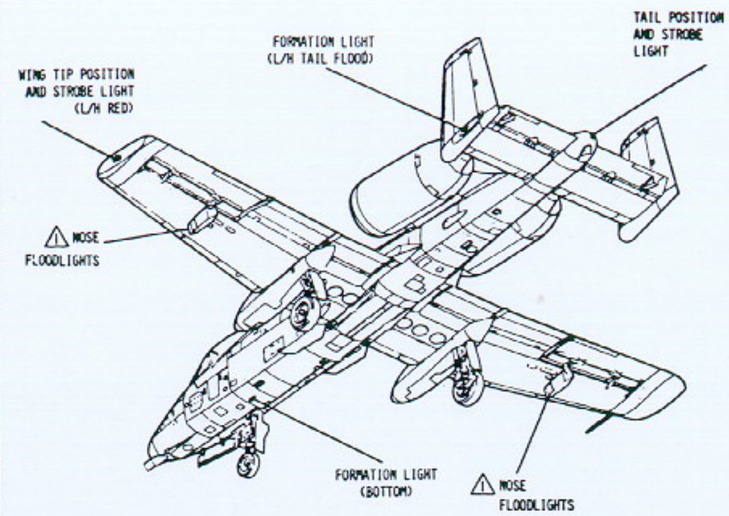


(Courtesy US Air Force)



Looking forward through the engines at the open canopy. The two red circles in front of the engines and on top of the fuselage are the main fuel cell inspection hatches. Note the way the engine-mounts extend to the rear.
The top right picture shows the tail end of the right engine. Nearly 85 percent of the A-10's thrust comes from cold fan air which freely bypasses the combustion chamber.

EXTERNAL LIGHTING


TAIL POSITION AND STROBE LIGHT
FORMATION LIGHT (L/H TAIL FLOOD)
WING TIP POSITION AND STROBE LIGHT (L/H RED)
NOSE FLOODLIGHTS
FORMATION LIGHT (BOTTOM)
NOSE FLOODLIGHTS

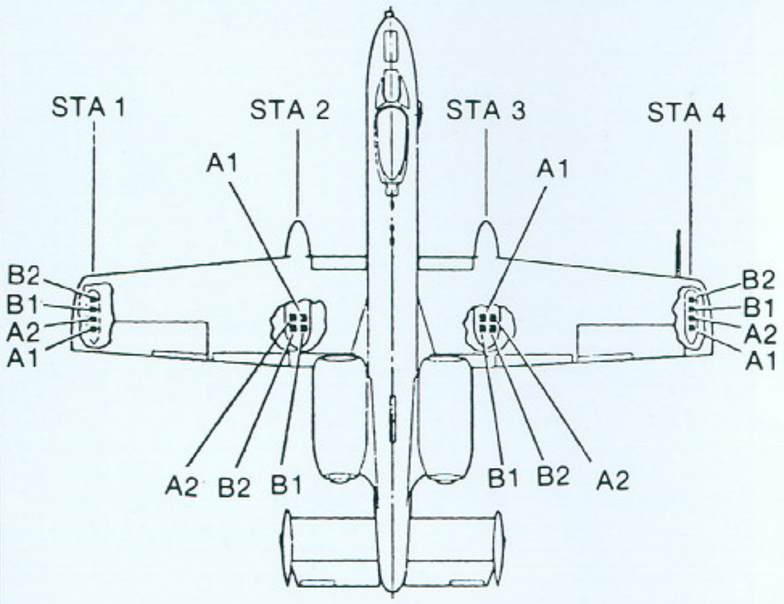
(Courtesy US Air Force)

Bottom view of the fuselage with from left to right the VHF/FM antenna, the off-center fuel dump and the VHF/AM radio antenna. Note the concave shape of the wing and flaps.
(Bottom right) The tapered fairing of the landing gear sponson holds four chaff/flare dispensing units which are still covered here.
The sponson is undercut for flap clearance.

Still one of the main countermeasure devices used by the USAF on many aircraft is the Westinghouse built AN/ALQ-131(V-9) ECM pod seen from both sides here. Even the A-10 uses them to good advantage.
Color and markings of this ECM device clearly show.

Note the angle-of-attack sensing vane on the leading edge of the wing in the bottom picture. Also on this view can be seen the much more pointed shape of the outermost pylon compared to the two inner hardpoints.

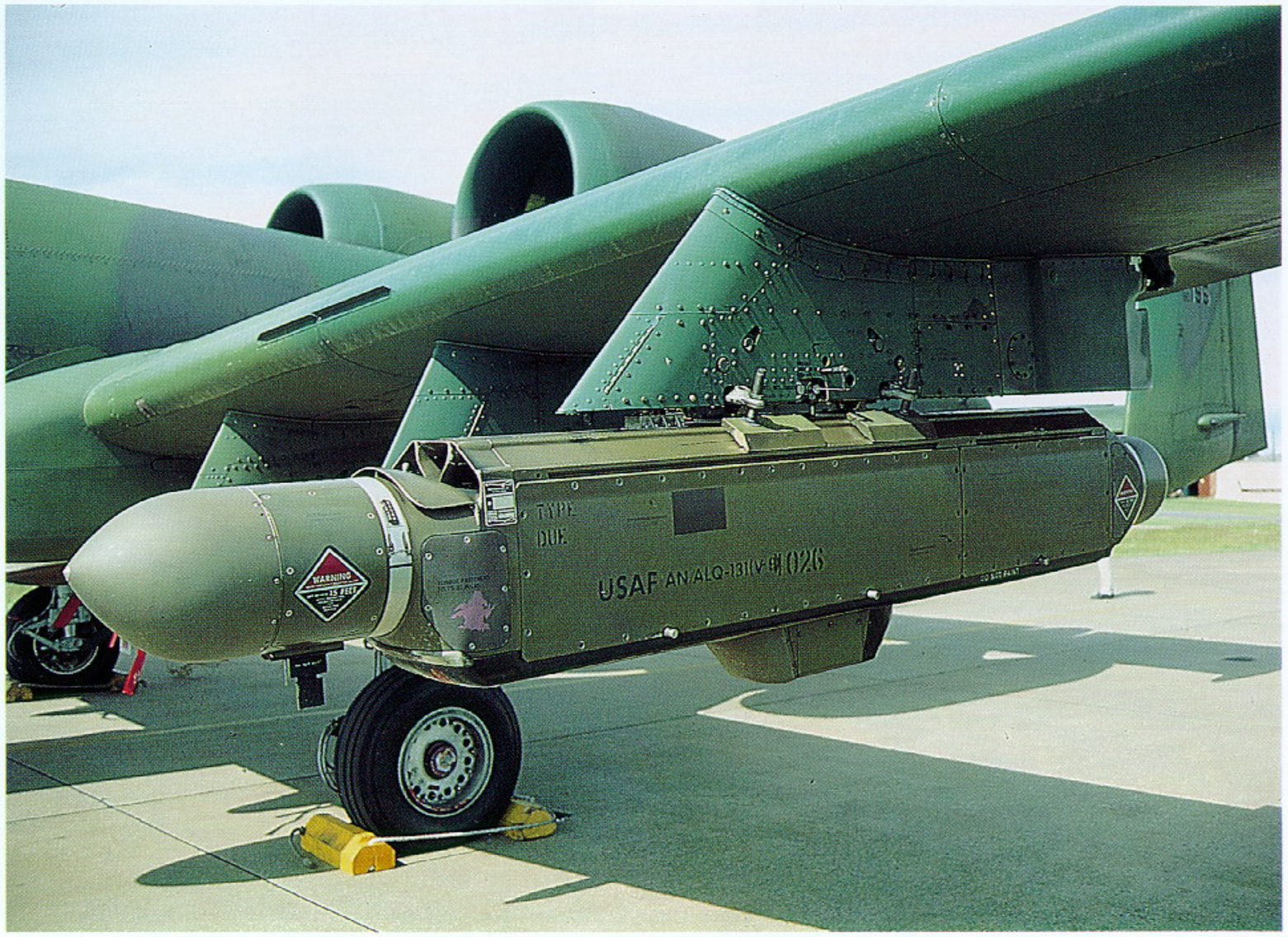
(Courtesy US Air Force)



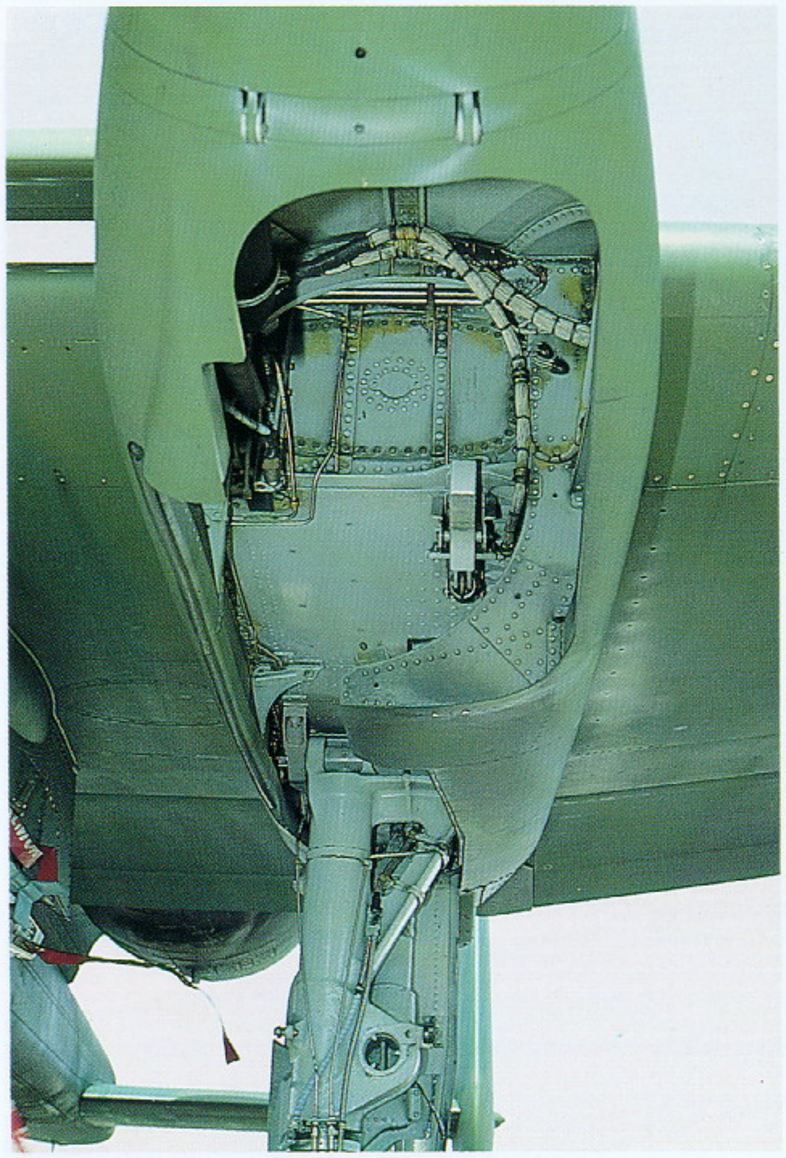
VIEW LOOKING DOWN

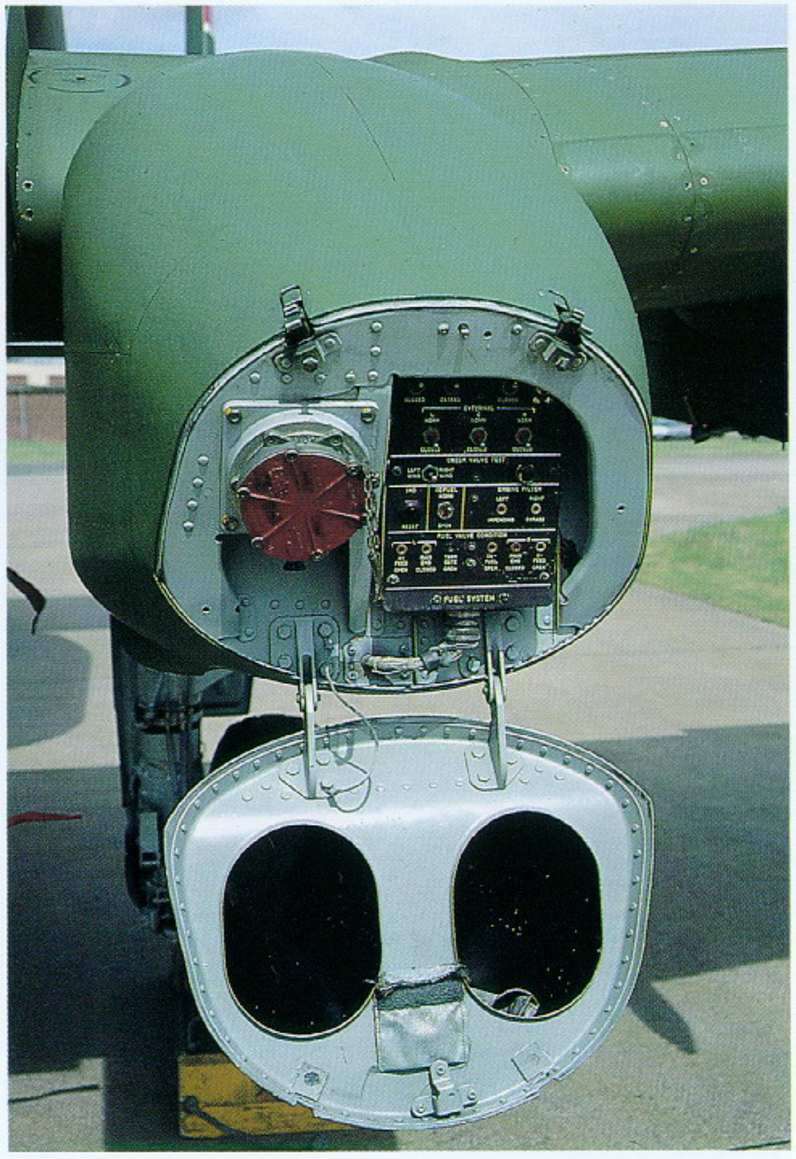
STORES	RELEASE SEQUENCE (STATIONS)
RR-170 A/AL CHAFF CARTRIDGES (SINGLE)	1, 4, 2, 3
RR-170 A/AL CHAFF CARTRIDGES (DOUBLE)	1 AND 4, 2 AND 3
M-206 FLARE CARTRIDGES	3, 2, 4, 1
NOTE EACH STATION WILL RELEASE ITS STORES IN THE ORDER A1, A2, B1, B2.	

CHAFF/FLARE DISPENSING SYSTEM



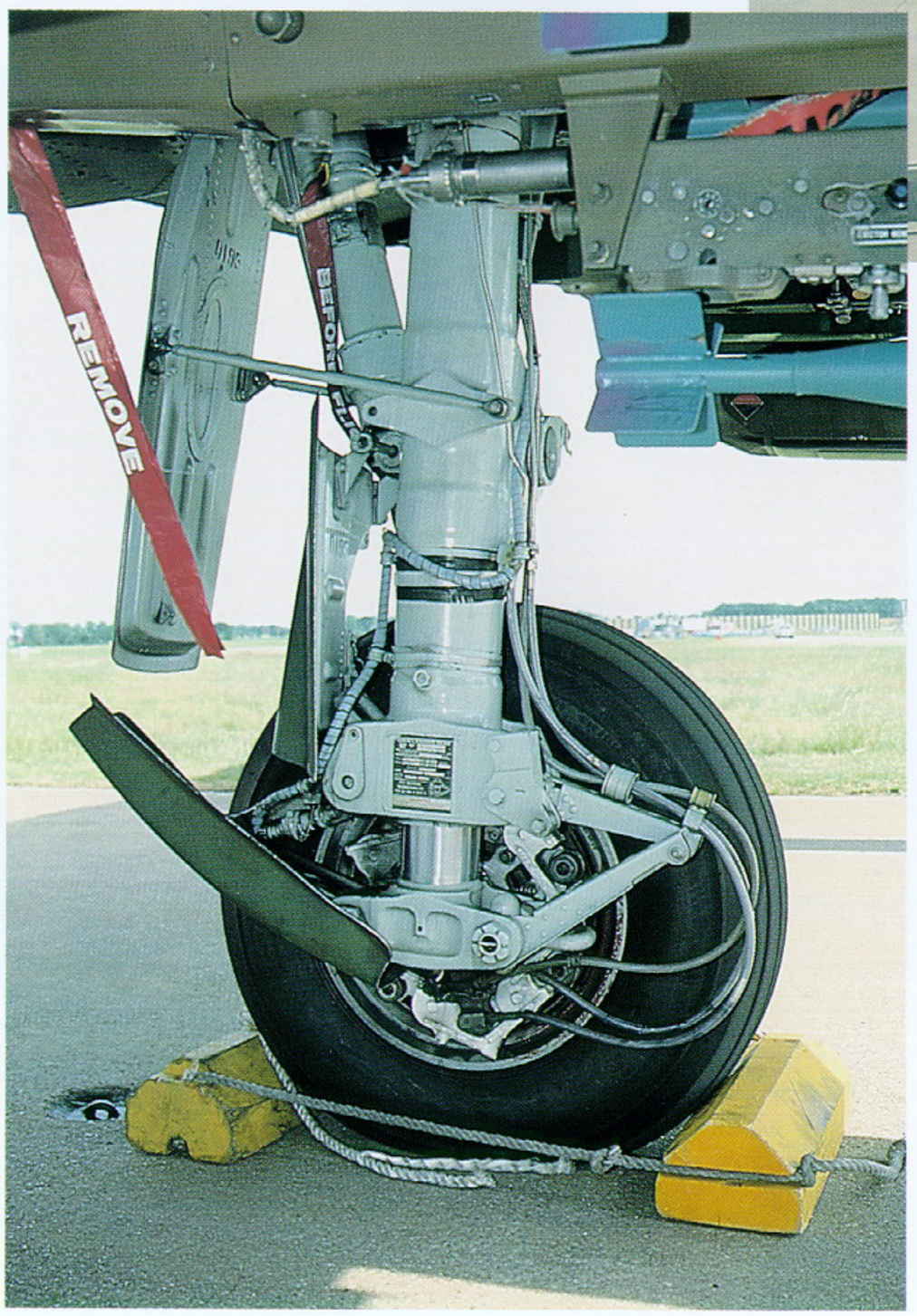
The left main landing gear sponson with the single-point refueling position located at the front end of the sponson. When opened, the single refueling hose-connection and the fuel system control panel are revealed.
Although being located a considerable distance apart(to decrease the risk of a single hit causing total fuel loss), both wing tanks, forward and aft main fuselage tanks can be refueled from this point, assuring quick turnarounds between sorties. This is vital to the effectiveness of close air support.

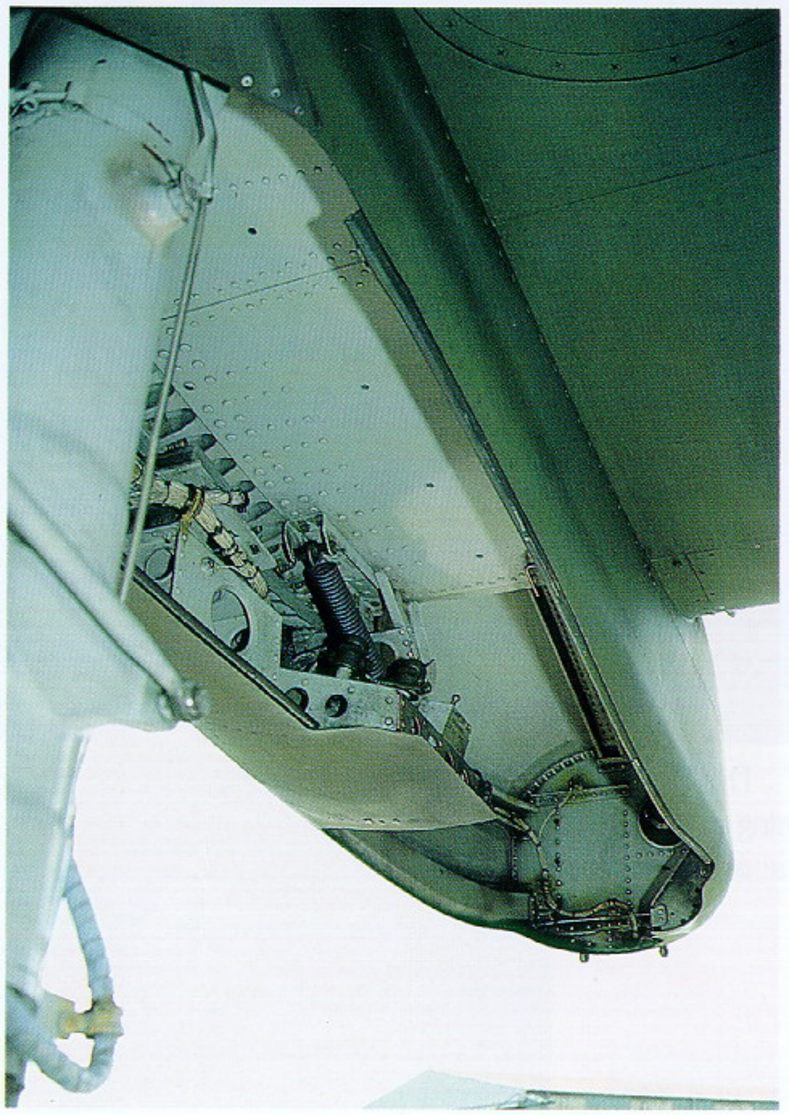




A single-tube boarding ladder is stowed behind panel F69, enabling the pilot to board his aircraft even at remote landing sites with little or no equipment available. Very rarely, the inside of this door is left unpainted as with this aircraft. Graffiti of all kinds usually "adorn" its inner surface.
Note the 81st TFW badge aft of the cockpit.

The left main landing gear strut and part of the TER-9. When fully closed, the three-split landing gear door only covers the strut, leaving the tire exposed to the elements. The shallowness of the sponson does not allow for the gear to be fully retracted.



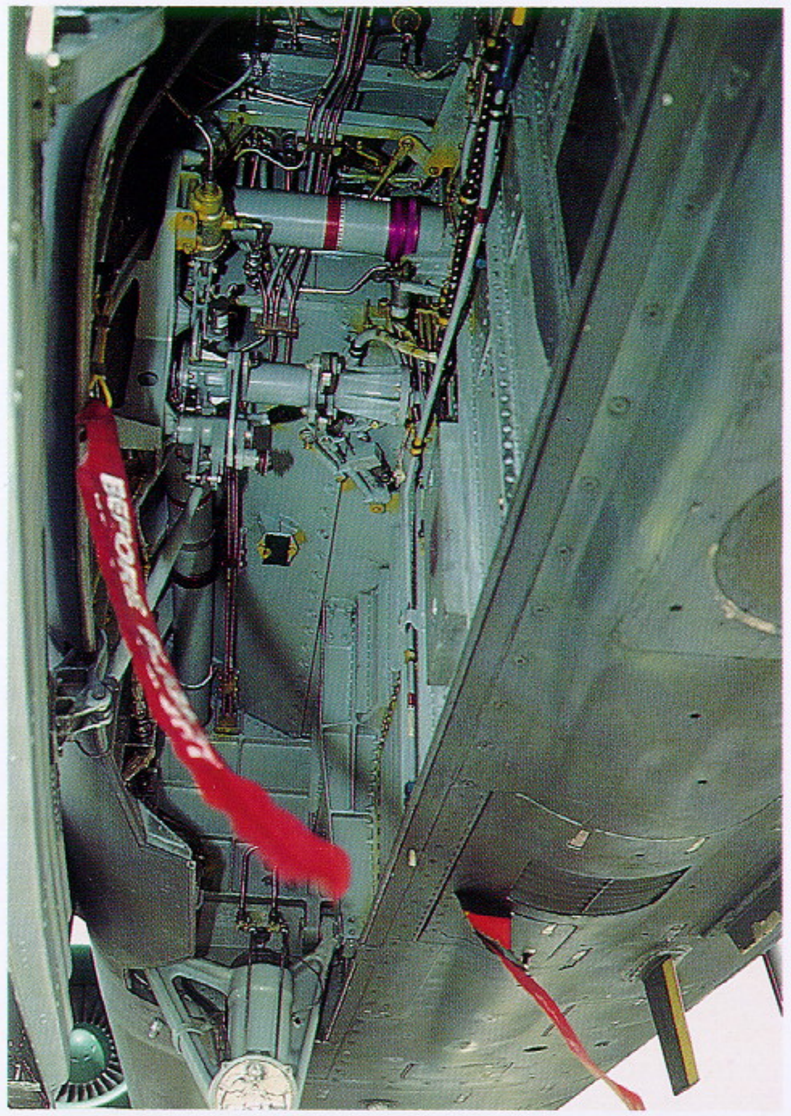


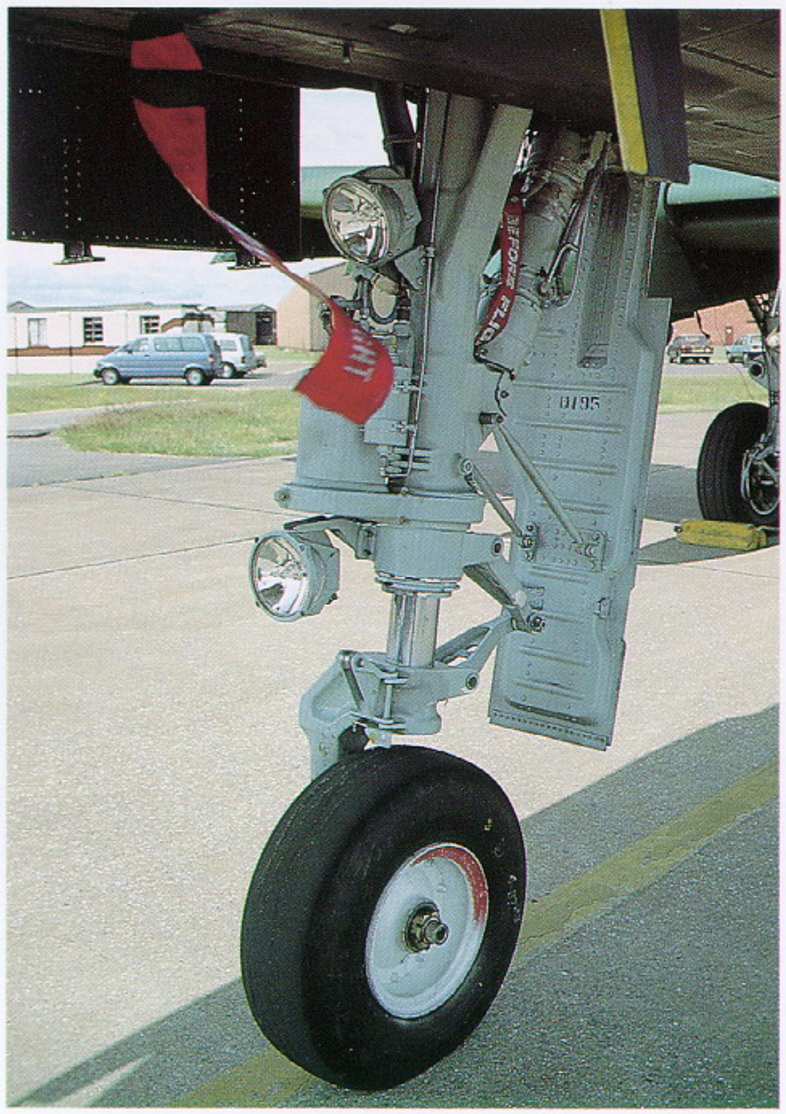
The business end of the A-10 "Warthog". The huge centerline mounted GAU-8/A 30mm "Avenger" gun caused the repositioning of the nose landing gear to the far right of the fuselage. Note the way the gun muzzle is incorporated in the nose section of the aircraft, retaining the A-10's pointed nose.

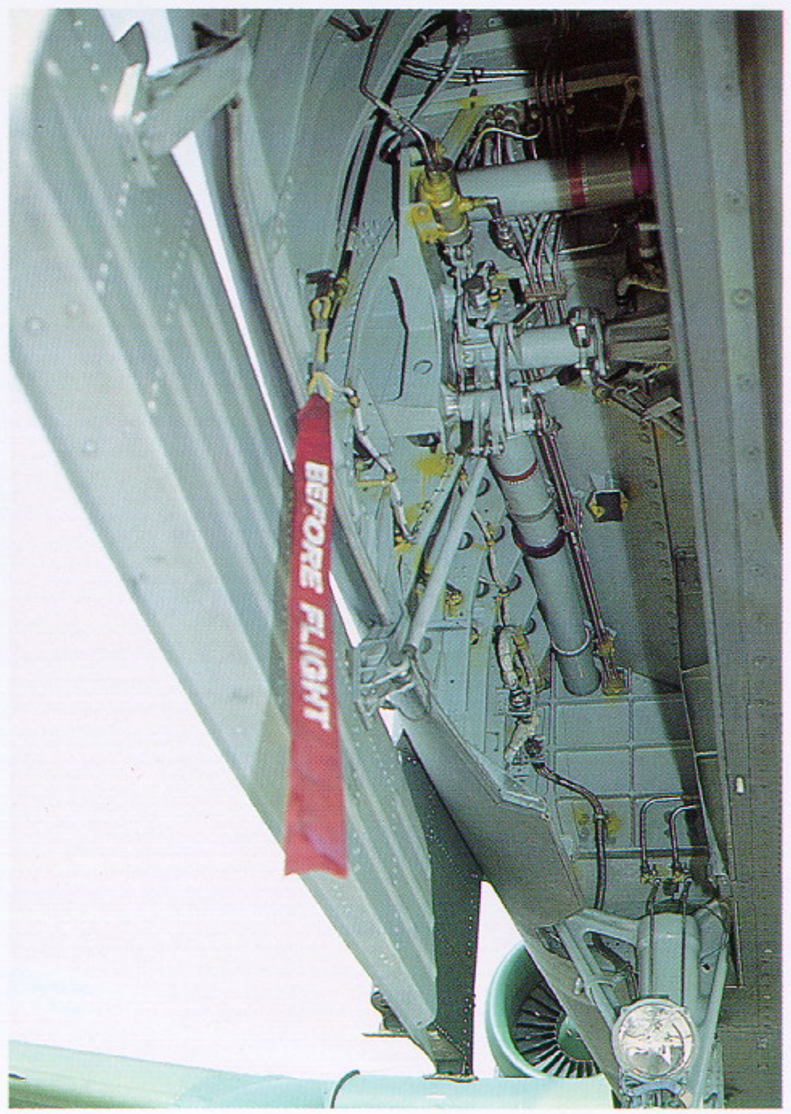
A further point of interest is the single-point in-flight refueling door on top of the nose section, with a white "H" marking in front of it. This marking is a reference point for the boom-gunner in the tanker aircraft. Because the refueling boom would remove most of the paint anyway, this panel is left unpainted showing its bare metal surface.
Two more AN/ALR-69 radar warning antennas can be seen on either side of the nose.

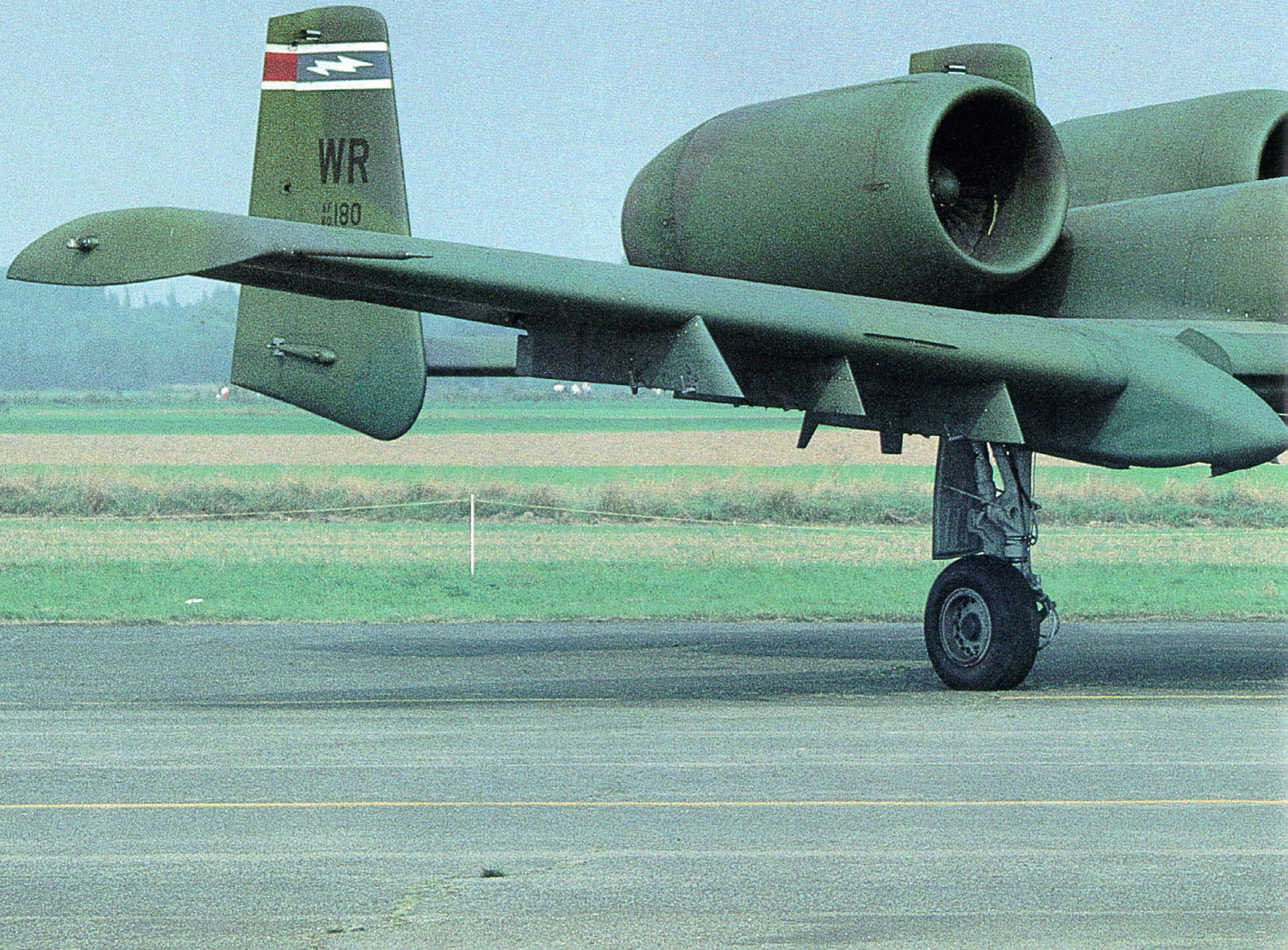
The nose landing gear and the inside of the nose gear well.
Although influenced by the camouflage color of the aircraft, the landing gear strut and the inside of the wheel well are painted white. Note they are kept extremely clean for easy spotting of hydraulic leaks.

The nose gear door splits into two segments, one part being mechanically linked to the nose gear strut while the other door half is side-mounted to the fuselage.
Two taxilight/landinglight units are mounted on the strut.
The bottom left picture shows part of the Pave Penny pylon from below.





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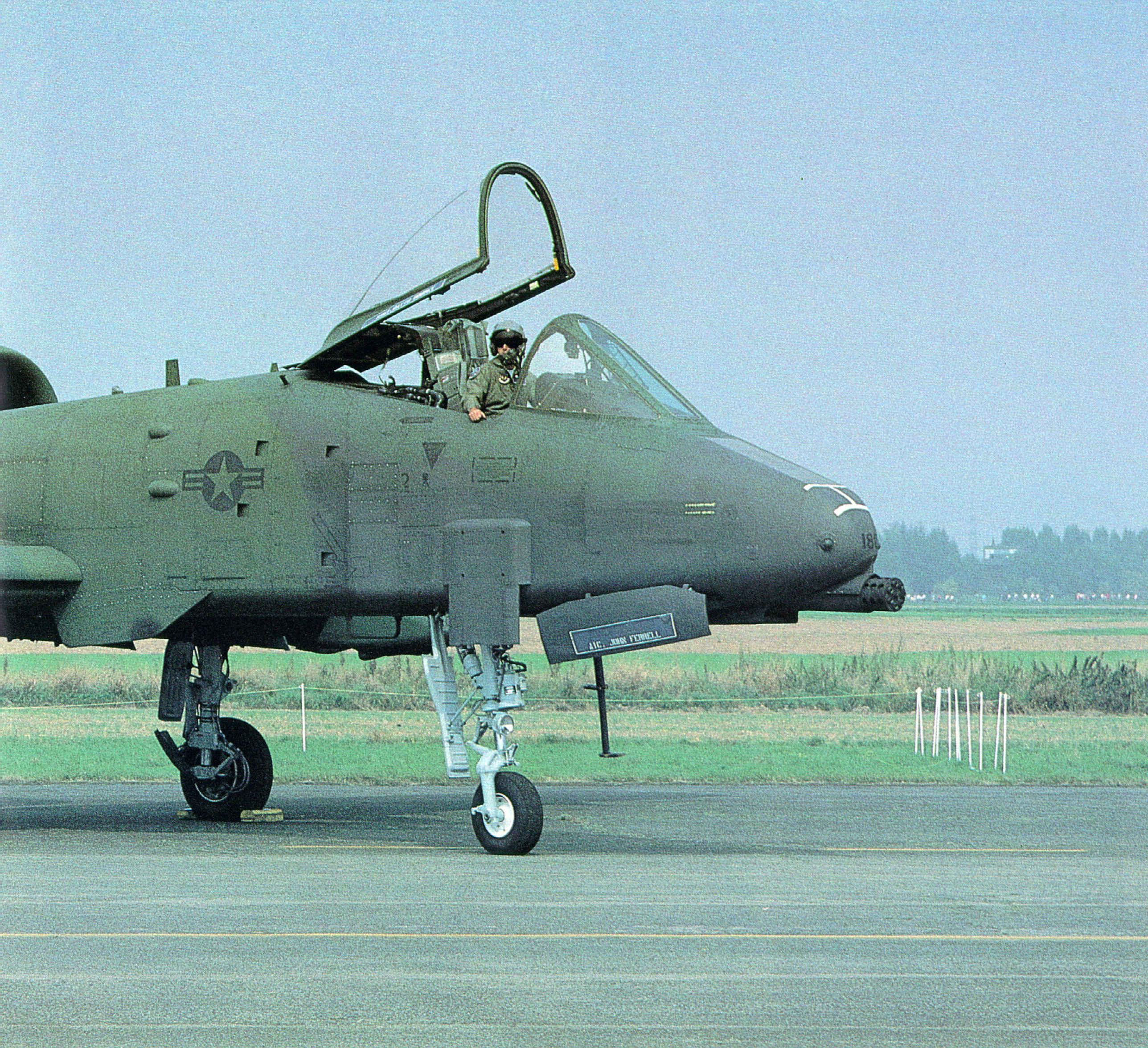
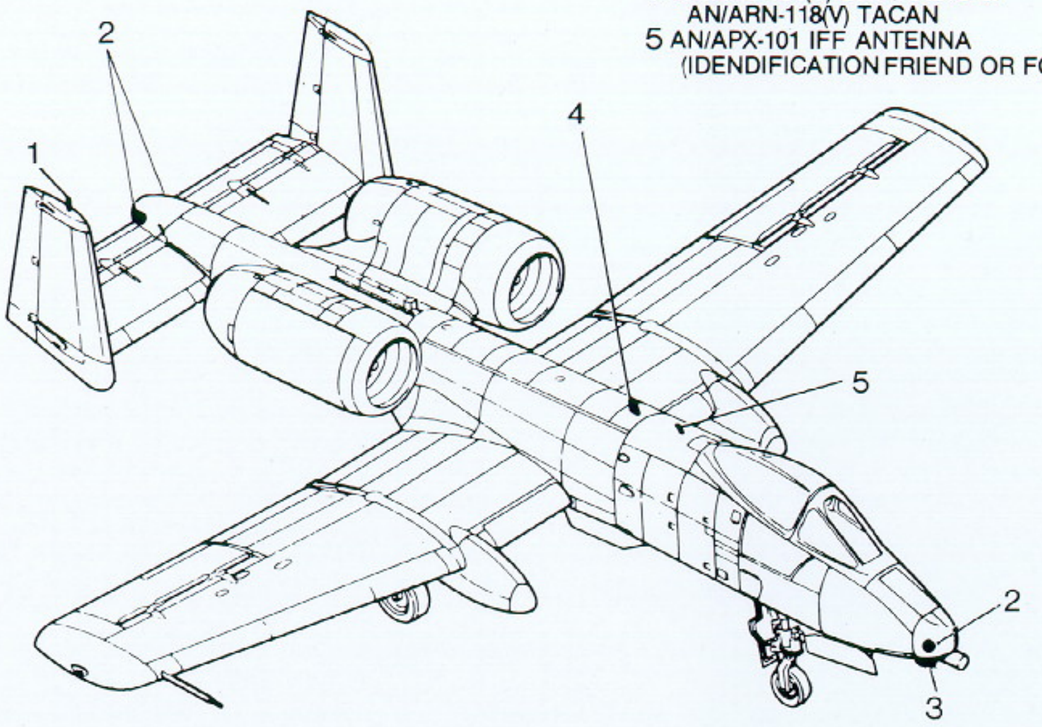
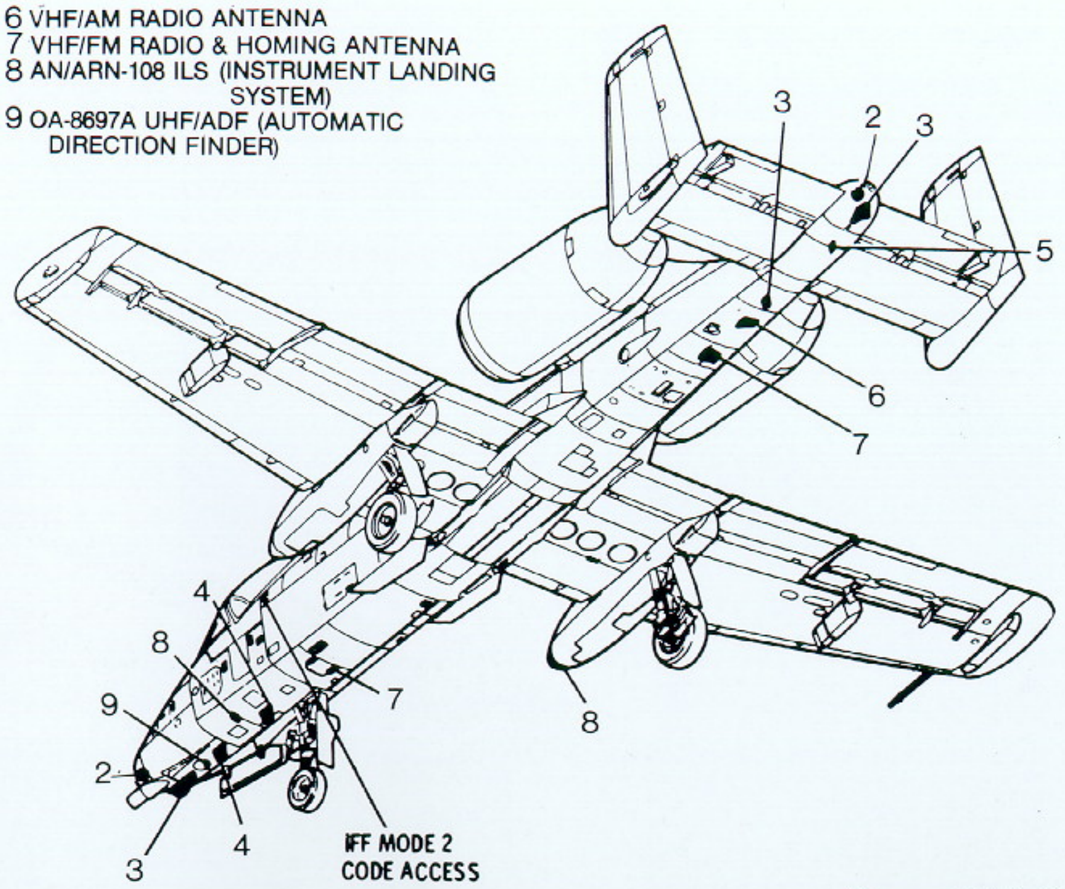

LTC. JOHN FERRELL

ANTENNA LOCATIONS

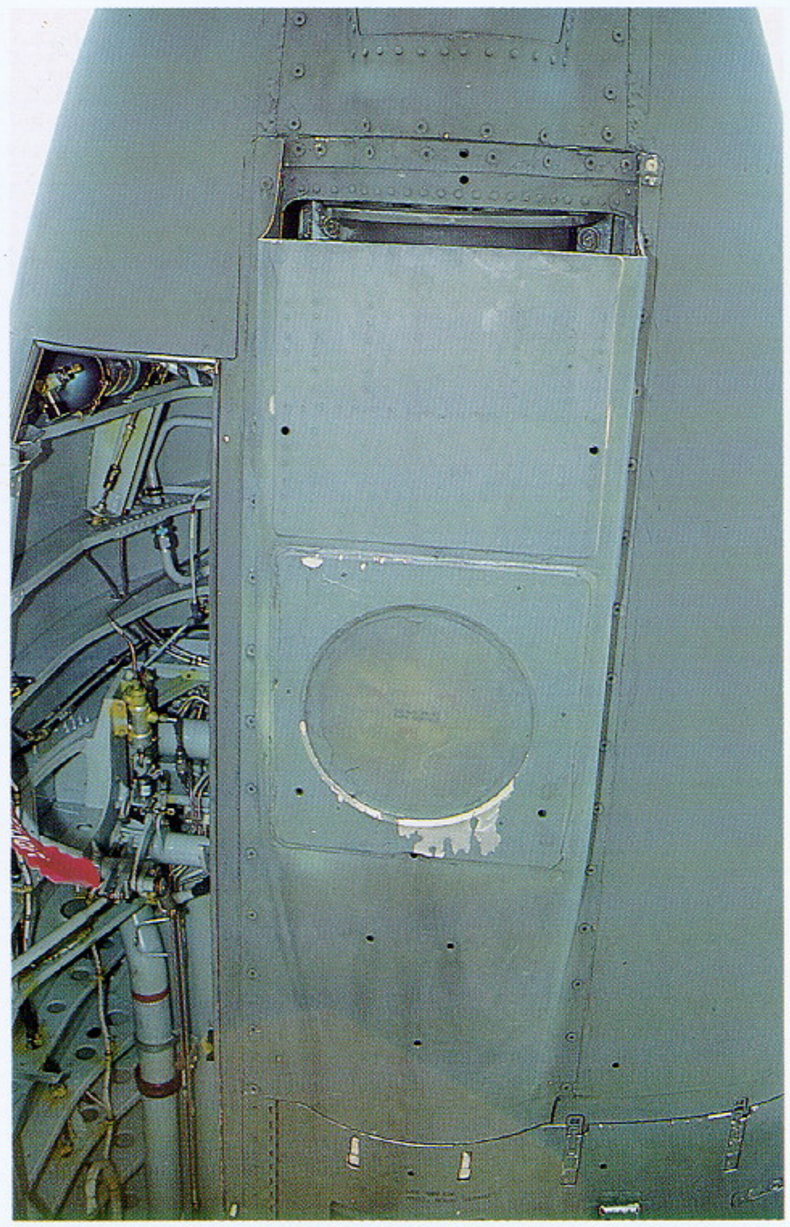
1 AN/UPN-25 X-BAND RADAR ANTENNA
2 AN/ALR-69 RADAR WARNING ANTENNA
3 RADAR WARNING SYSTEM
4 AN/ARC-164(V) UHF RADIO & AN/ARN-118(V) TACAN
5 AN/APX-101 IFF ANTENNA (IDENDIFICATION FRIEND OR FOE)

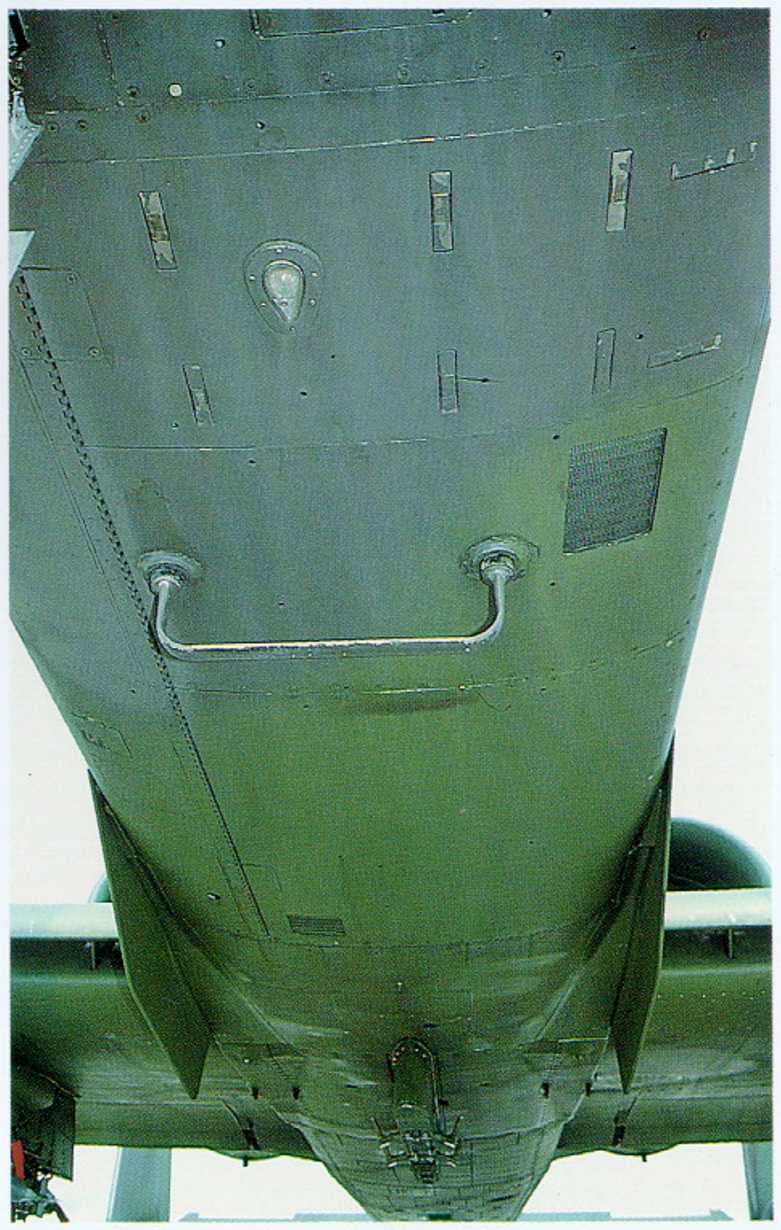


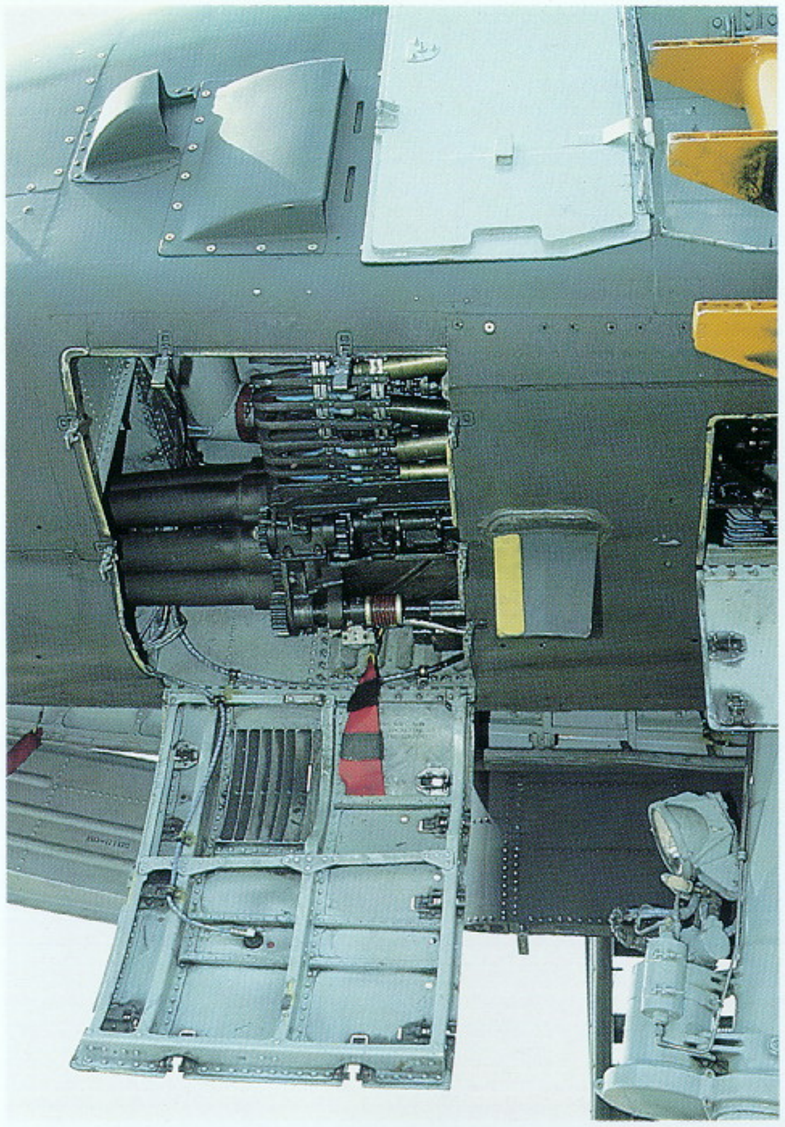
6 VHF/AM RADIO ANTENNA
7 VHF/FM RADIO & HOMING ANTENNA
8 AN/ARN-108 ILS (INSTRUMENT LANDING SYSTEM)
9 OA-8697A UHF/ADF (AUTOMATIC DIRECTION FINDER)

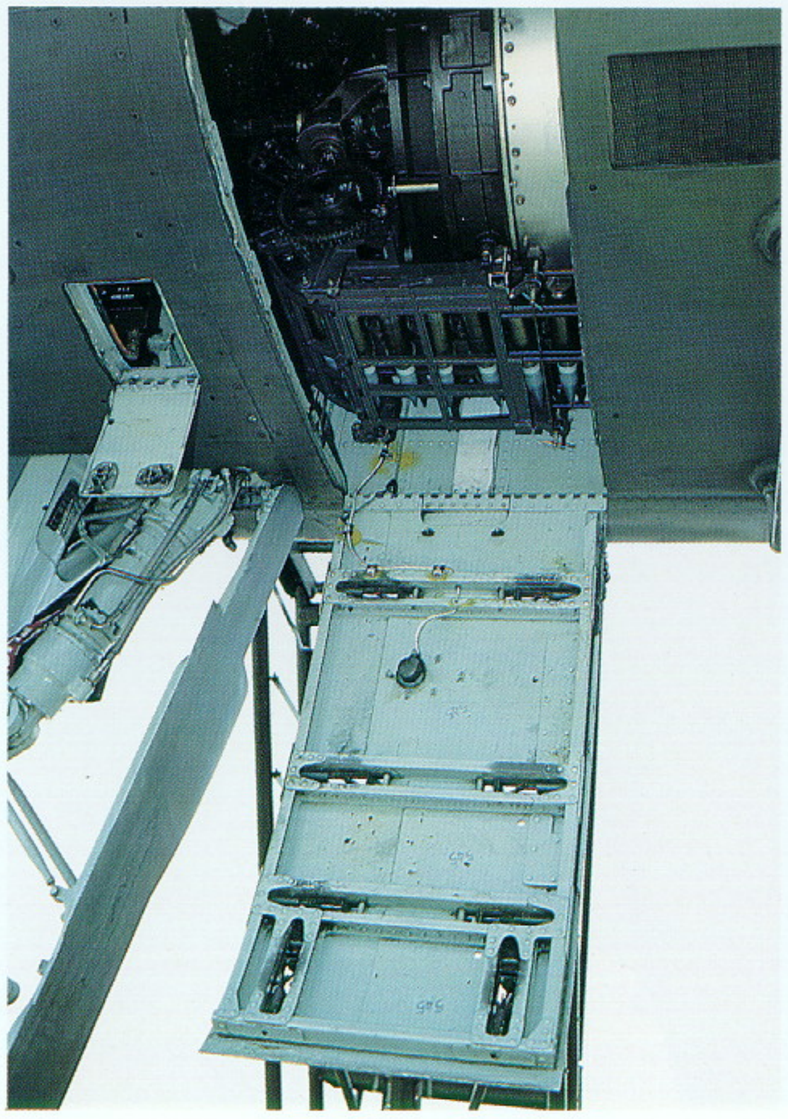


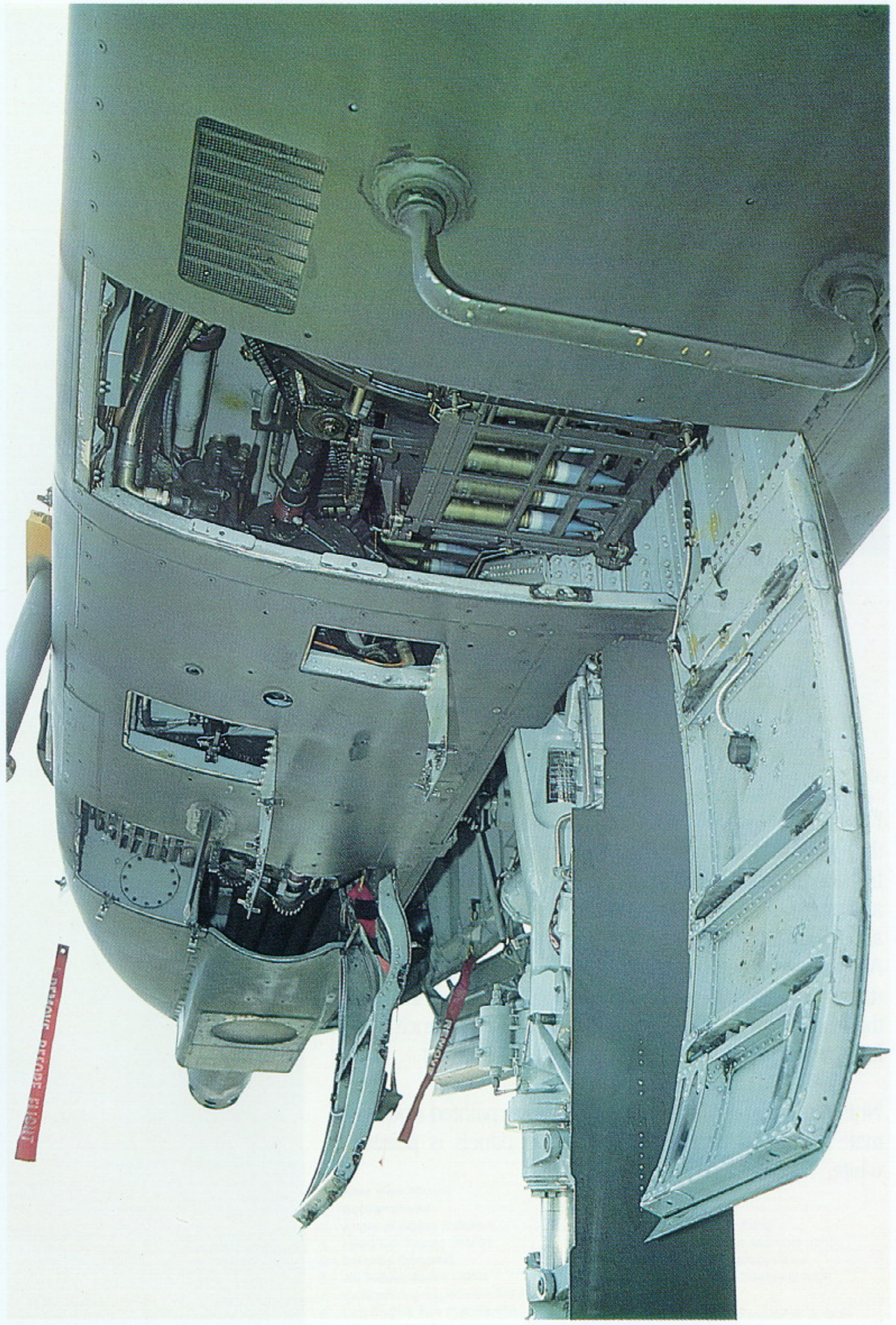
(Courtesy US Air Force)





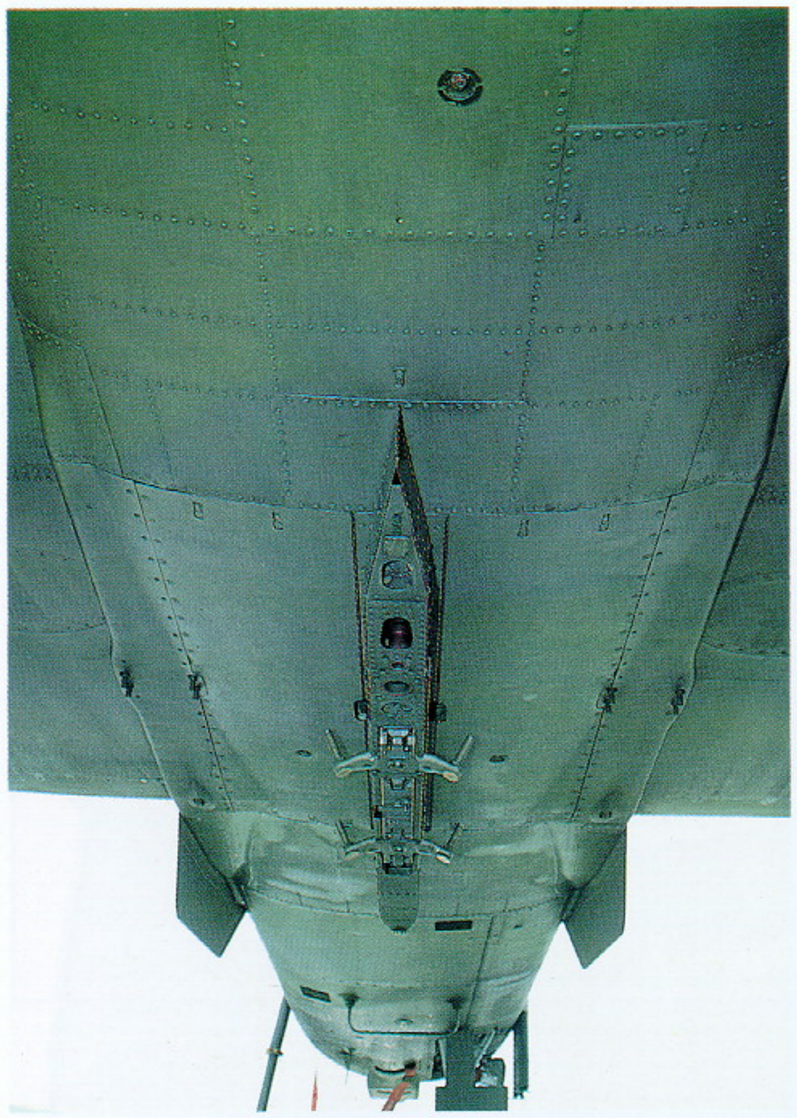


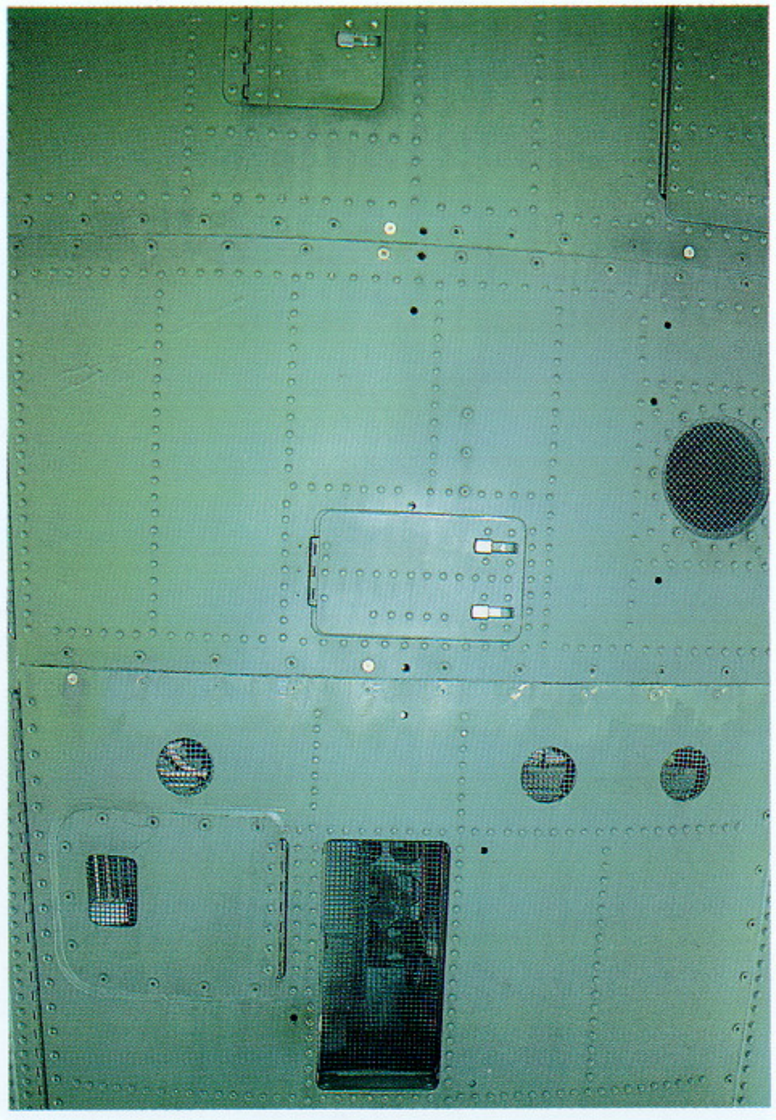




All quick-release access panels to the gun unlatched. Ample detail is visible in these three shots. The two rearward facing scoops in front of the boarding ladder housing is the battery compartment coolant exhaust (most forward) and the ammo loading compartment ventilation cover. The ammo is loaded through the large door shown at left, aft of the nose landing gear.

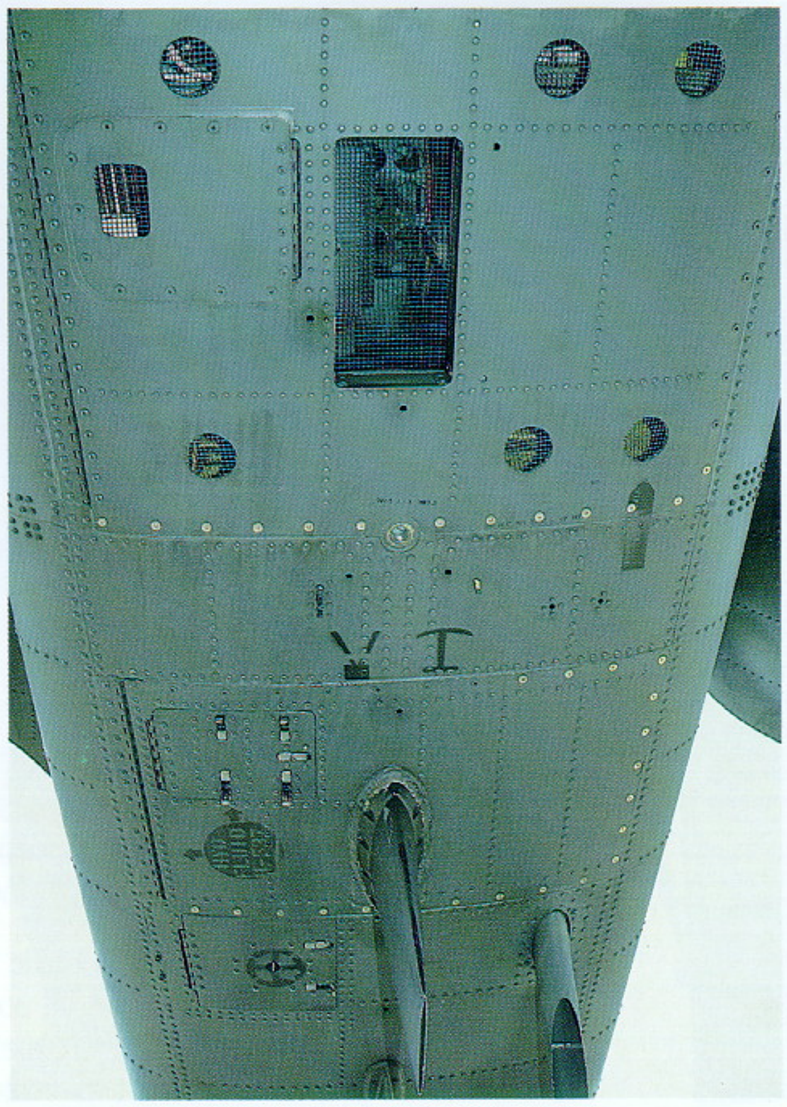
(Opposite page) The Automatic Direction Finder, a flush disc below the gun cooling intake. The middle picture shows all access hatches in closed position with two additional antennas clearly visible. The bottom formation light and the "looped" homing antenna are shown in the third picture. Note the two ventral strakes aside the fuselage bottom edge.

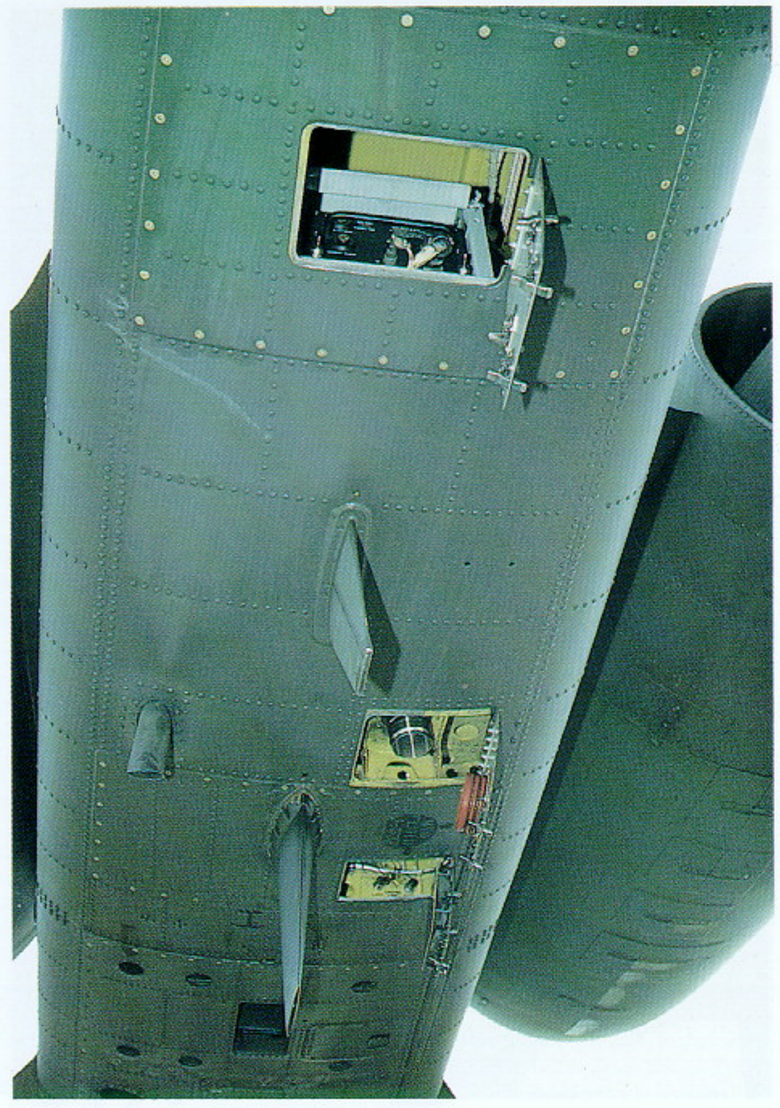




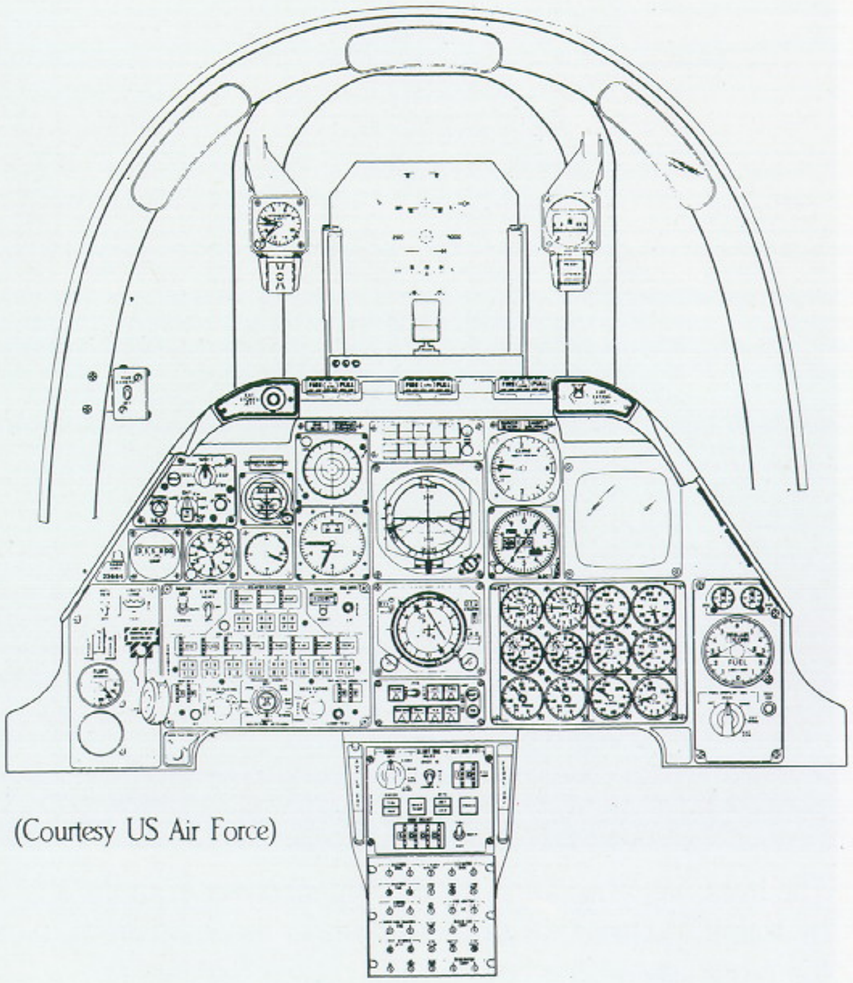
Further looking aft across the "belly" of the A-10 with the center pylon in the first picture clearly visible.
Inspection hatches, servicing points, air ventilation holes and more antennas are located here, facilitating servicing and maintenance by ground crew members.
All servicing can be done without the use of supporting stands or platforms, unlike taking the pictures as shown in the front of this book, for which a solid maintenance platform was mobilized.

Note the internal surfaces of the A-10 are painted zinchromate yellow while the inside of the panels is painted white.

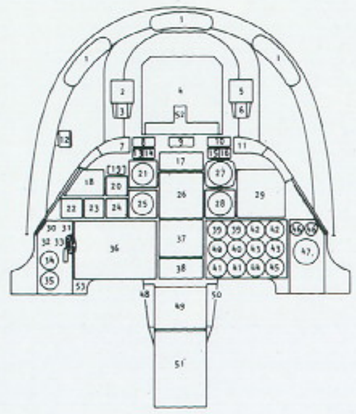




A-10A COCKPIT



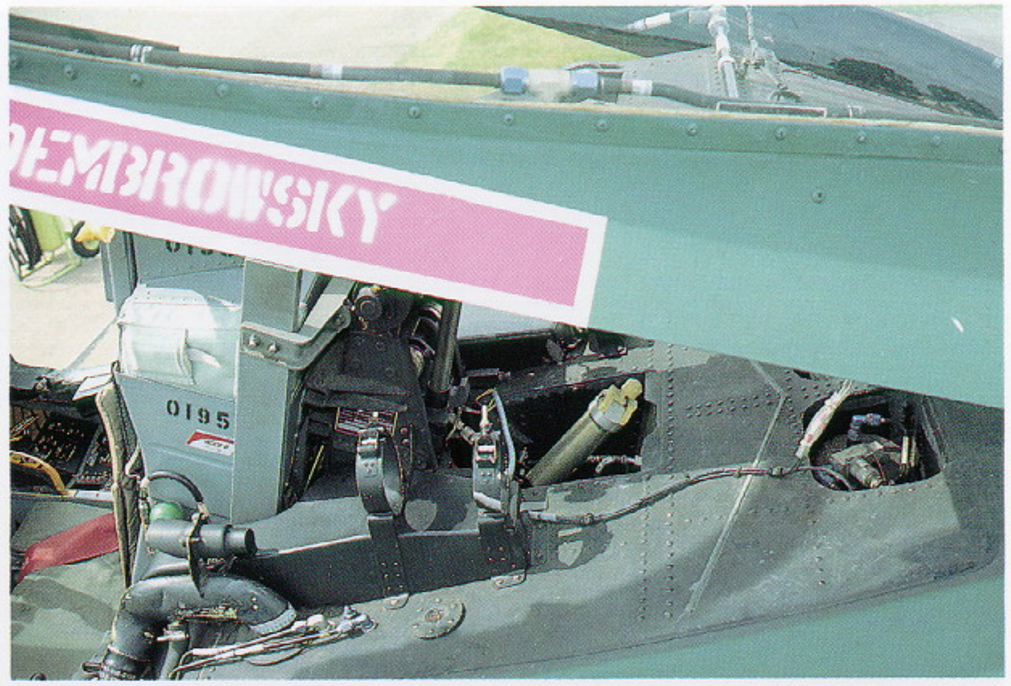
(Courtesy US Air Force)



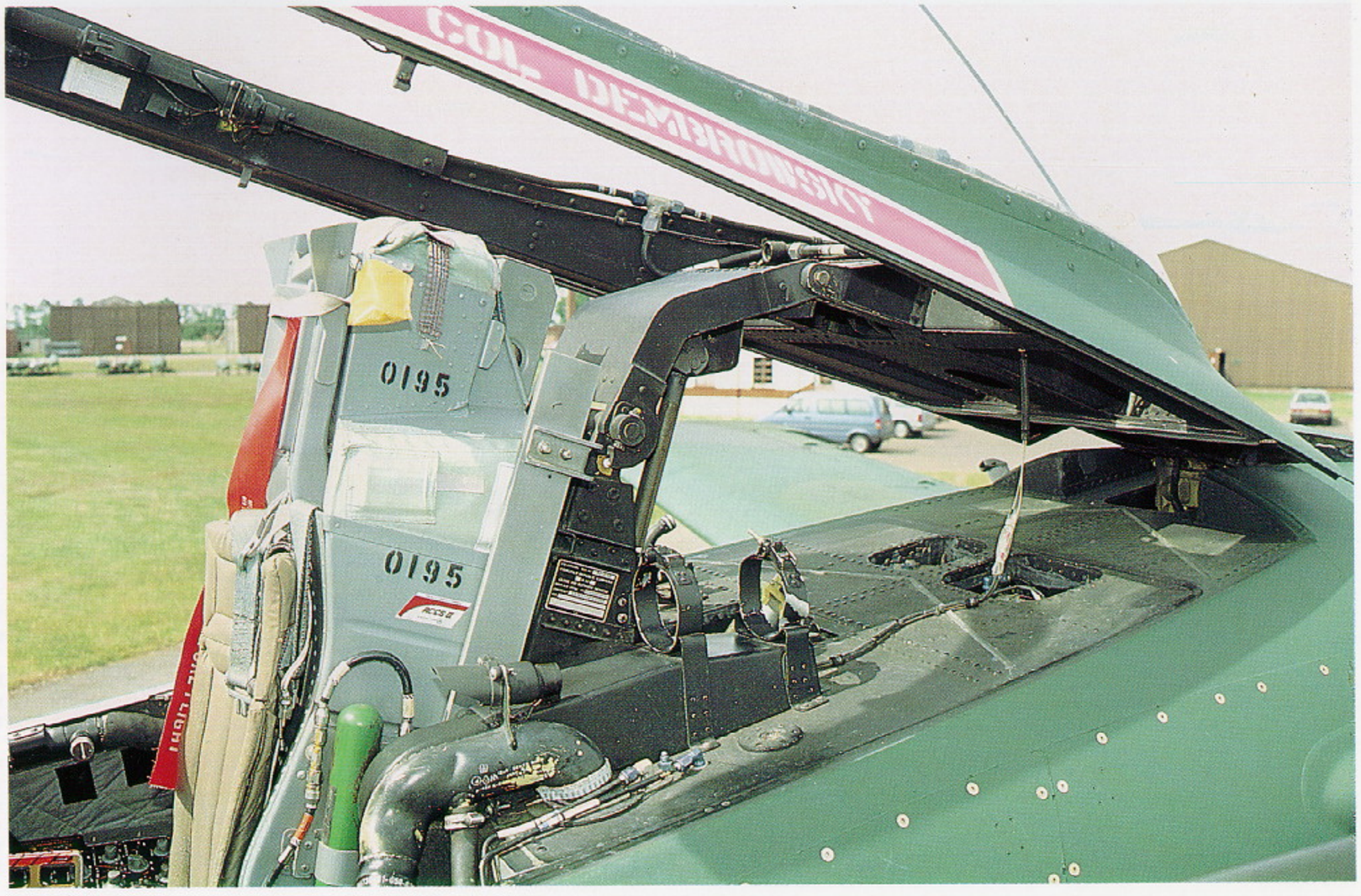
INSTRUMENT PANEL (TYPICAL)

1. Rear View Mirrors
2. Accelerometer
3. Angle of Attack indexers
4. Head Up Display (HUD)
5. Standby Compass
6. Air Refuel Status Lights
7. External Stores Jettison Switch
8. Left Engine Fire Pull Handle
9. APU Fire Pull Handle
10. Right Engine Fire Pull Handle
11. Fire Extinguishing Agent Discharge Switch
12. Gun Camera Switch
13. Gun Ready Light
14. Nose Wheel Steering Engaged Light
15. Marker Beacon Light
16. Canopy Unlocked Light
17. RHAW Control Indicator
18. HUD Control Panel
19. Master Caution Light
20. Standby Attitude Indicator
21. RHAW Azimuth Indicator
22. UHF Remote Chan/Freq Indicator
23. Clock
24. Angle of Attack Indicator
25. Airspeed Indicator
26. Attitude Director Indicator (ADI)
27. Vertical Velocity Indicator
28. Altimeter
29. TV Monitor
30. Anti-Skid Switch
31. Landing/Taxi Lights Switch
32. Landing Gear Position Display
33. Landing Gear Handle and Override Button
34. Flap Position Indicator
35. Deleted
36. Armament Control Panel
37. Horizontal Situation Indicator (HSI)
38. Navigation Mode Select Panel
39. Interstage Turbine Temperature Indicator (L&R)
40. Engine Core Speed Indicator (L & R)
41. Engine Oil Pressure Indicator (L & R)
42. Fan Speed Indicator (L & R)
43. Fuel Flow Indicator
44. APU Tachometer
45. APU Temperature Indicator
46. Hydraulic Pressure Gauge (Left Sys & Right Sys)
47. Fuel Quantity Indicator
48. Auxiliary Landing Gear Extension Handle
49. Laser Spot Seeker Panel
50. Rudder Pedal Adjustment Handle
51. Essential Circuit Breaker Panel
52. Gun Camera CTVS
53. HARS Fast Erect Switch

The front windshield and the instrument cover from the left. The HUD or head-up display, developed by Kaiser Electronics, can be seen under the windscreen. Note the inflight refueling panel at front and the raised assembling bolts on the cockpit framing.



The cockpit raising mechanism is attached to the rear of the ejection seat support structure.
The bronze and yellow strut protruding from the hole aft of the canopy raising mechanism is used to jettison the canopy in case of an emergency bail-out.



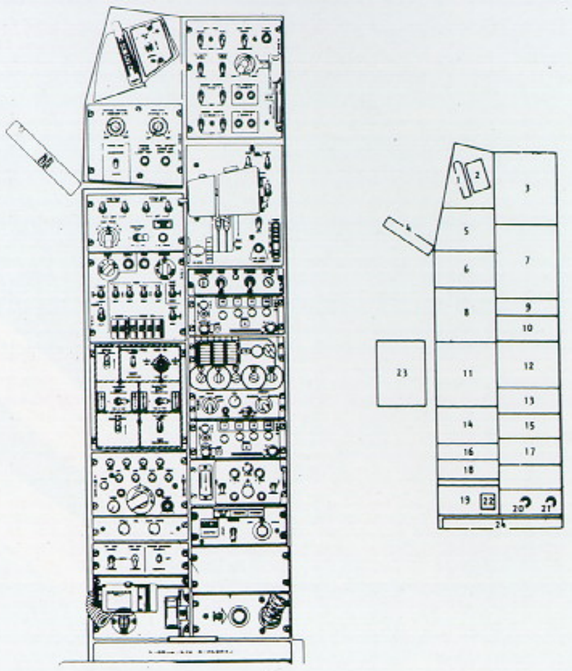
Side view of the ACES II ejection seat mounted in the A-10A. Noteworthy are the two canopy piercers atop the seat headrest, not found on the F-15 and the F-16 ACES II seat.
The angled canopy linkage arm attaches to the canopy inner framing. Quite an unusual canopy locking system, unique for this aircraft.
A colorful "name tag" on the canopy framing makes very clear who actually "owns" this aircraft. Beware the one who dares dispute this claim.

The windshield from the opposite side. Minor differences occur between the left and right side.

The main instrument panel of the A-10A shown here and on page 23 is of a conventional layout, the only sophisticated instrument being the Maverick TV display to the right side of the cockpit.
Like in the F-15, a dual set of gages is provided to monitor the proper functioning of the TF34 engines. Engine instruments can be found on the right while flight navigation instruments and weapon selector panel are located on the left side of the instrument panel.

Note the auxiliary landing gear extension handle and the rudder pedal adjustment handle on the left and the right side of the center console. The yellow ejection seat "pull to eject" handles dominate this inside view of the cockpit.
Also pay attention to the fire pull handles integrated in the leading edge of the instrument panel cover and the position of the HUD control panel.

LEFT CONSOLE (TYPICAL)

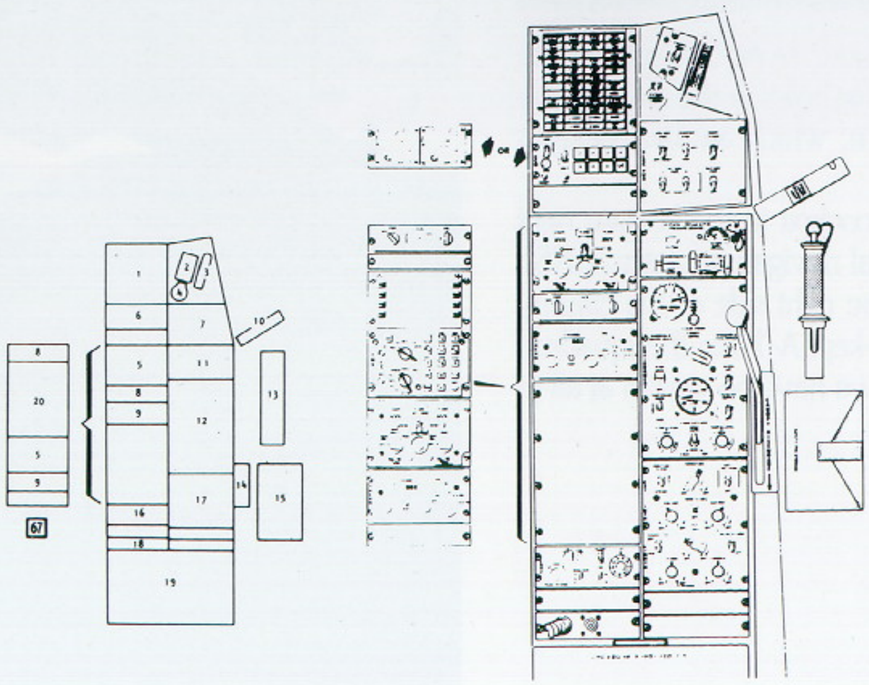


1. EMERGENCY BRAKE HANDLE
2. SEAT HEIGHT ADJUSTMENT SWITCH
3. FUEL SYSTEM CONTROL PANEL
4. MANUAL CANOPY OPENING ASSIST HANDLE
5. AUXILIARY LIGHTING CONTROL PANEL
6. STABILITY AUGMENTATION SYSTEM PANEL (SAS)
7. THROTTLE QUADRANT
8. IFF CONTROL PANEL
9. TV MONITOR CONTROL PANEL
10. VHF/AM RADIO CONTROL PANEL
11. EMERGENCY FLIGHT CONTROL PANEL
12. UHF RADIO CONTROL PANEL
13. VHF/FM RADIO CONTROL PANEL
14. INTERCOM CONTROL PANEL
15. CIPHONY PANEL
16. STALL WARNING CONTROL PANEL
17. CTVS/AVTR CONTROL PANEL
18. ANTENNA SELECT PANEL
19. UTILITY LIGHT
20. ANTI-G SUIT VALVE TEST BUTTON
21. ANTI-G SUIT HOSE
22. ARMAMENT OVERRIDE SWITCH
23. PIDDLE PAK STOWAGE
24. PIDDLE PAK DISPOSAL

(Courtesy US Air Force)

RIGHT CONSOLE (TYPICAL)

1. CAUTION LIGHT PANEL
2. CANOPY CONTROL SWITCH
3. CANOPY JETTISON HANDLE
4. BOARDING LADDER EXTENSION BUTTON
5. CHAFF/FLARE CONTROL PANEL
6. ECM PANEL
7. ELECTRICAL POWER PANEL
8. ILS CONTROL PANEL
9. TACAN CONTROL PANEL
10. MANUAL CANOPY OPENING ASSIST HANDLE
11. OXYGEN CONTROL PANEL
12. ENVIRONMENT CONTROL PANEL
13. CANOPY BREAKER TOOL
14. CANOPY ACTUATOR DISENGAGE LEVER
15. SAFETY PIN STOWAGE
16. HARS CONTROL PANEL
17. LIGHTING CONTROL PANEL
18. OXYGEN HOSE AND INTERCOM CONNECTION
19. FLIGHT DATA STOWAGE
20. CONTROL DISPLAY UNIT (CDU)



(Courtesy US Air Force)

The cockpit raising mechanism from the right side. Note the lines of the cockpit's defogging system and the two rectangular holes in the cockpit bottom plate aft of the canopy's ejecting mechanism, which are the cockpit's air valves.
The "probe" which can be seen just aft of the cockpit in the bottom right picture is indicative for A-10's carrying the inertial navigation system (INS). Note that the crew-chief's name is carried on the right side of the canopy framing. Each crew-chief claims to have the best-kept A-10 in the squadron and after having seen the aircraft at Bentwaters, we have no reason at all to doubt it.

The angled canopy linkage arm viewed through the perspex hood.

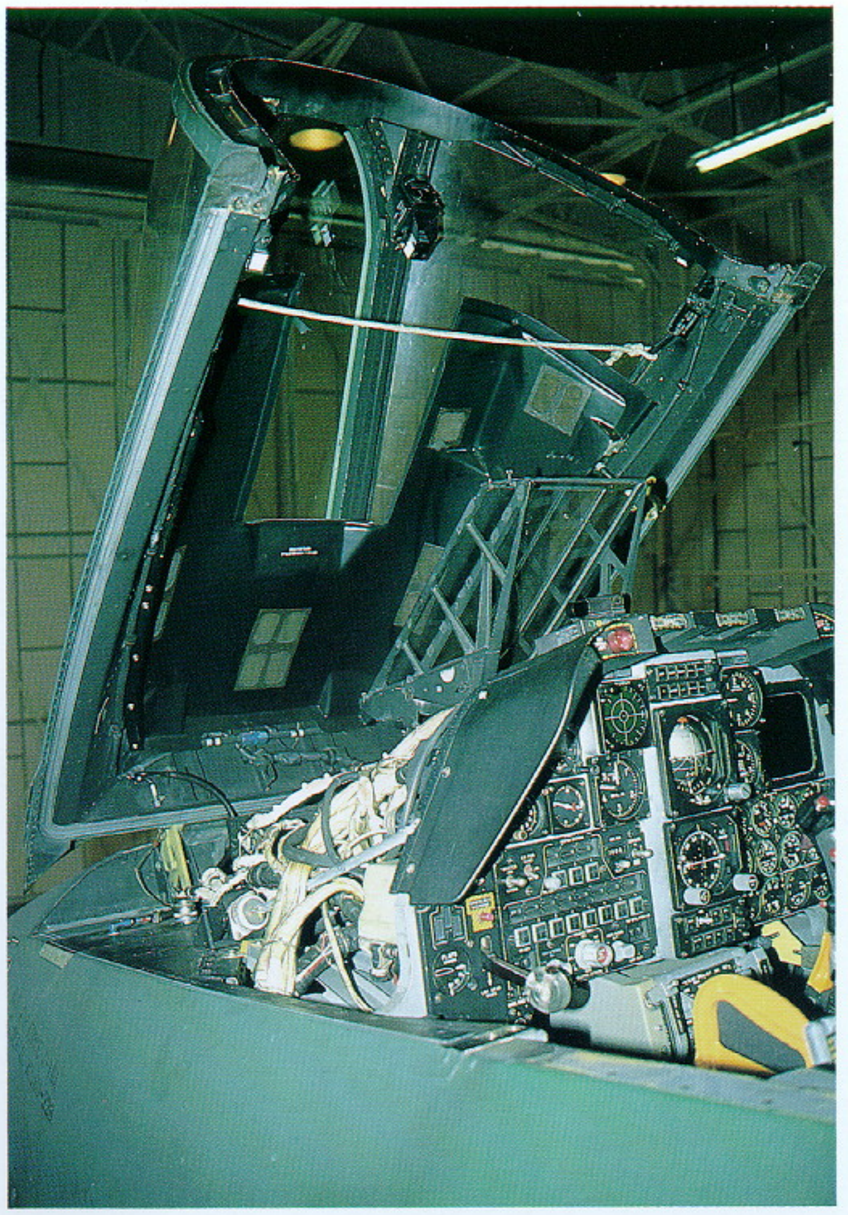
The first impression you get when walking in a RAF Bentwaters maintenance hangar is of a hospital operating room. Never before have we witnessed a place kept so immaculately clean, considering a multitude of fluids, grease and mechanical parts are being handled here. Here, the A-10's are being looked after by highly qualified servicemen who, as we noticed, take a lot of pride in what they're doing.
For the pilots, this must be a reassuring thought, because in order to do their job well, they have to be sure their machines are 100 per cent reliable. Pilots have to be sure their aircraft are available any time of the day or night, even if this means working through the night for the men who take less of the credit but who are of vital importance to the successful completion of the mission.

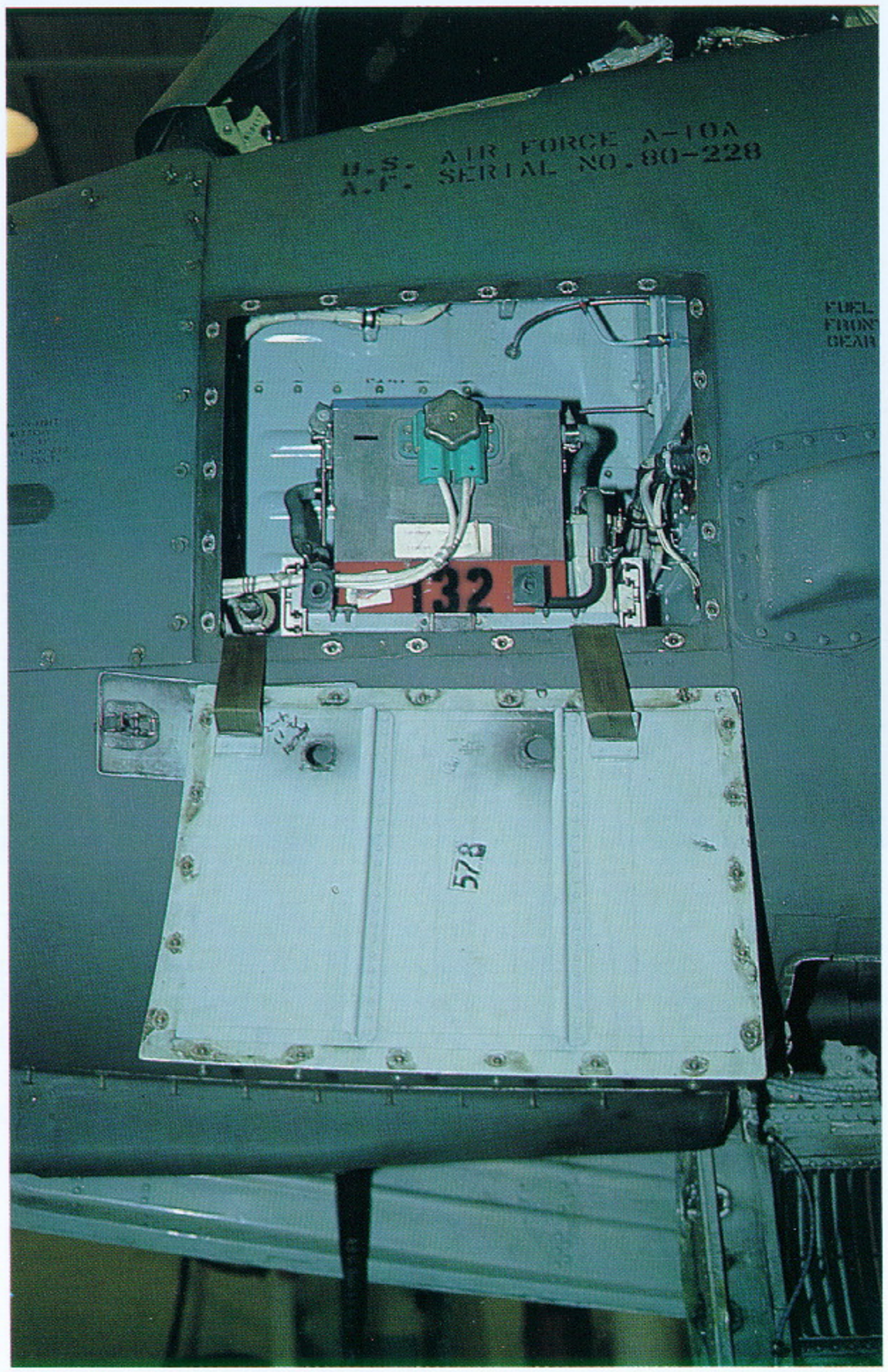
Note the custom-made working platforms which make maintenance so much easier.

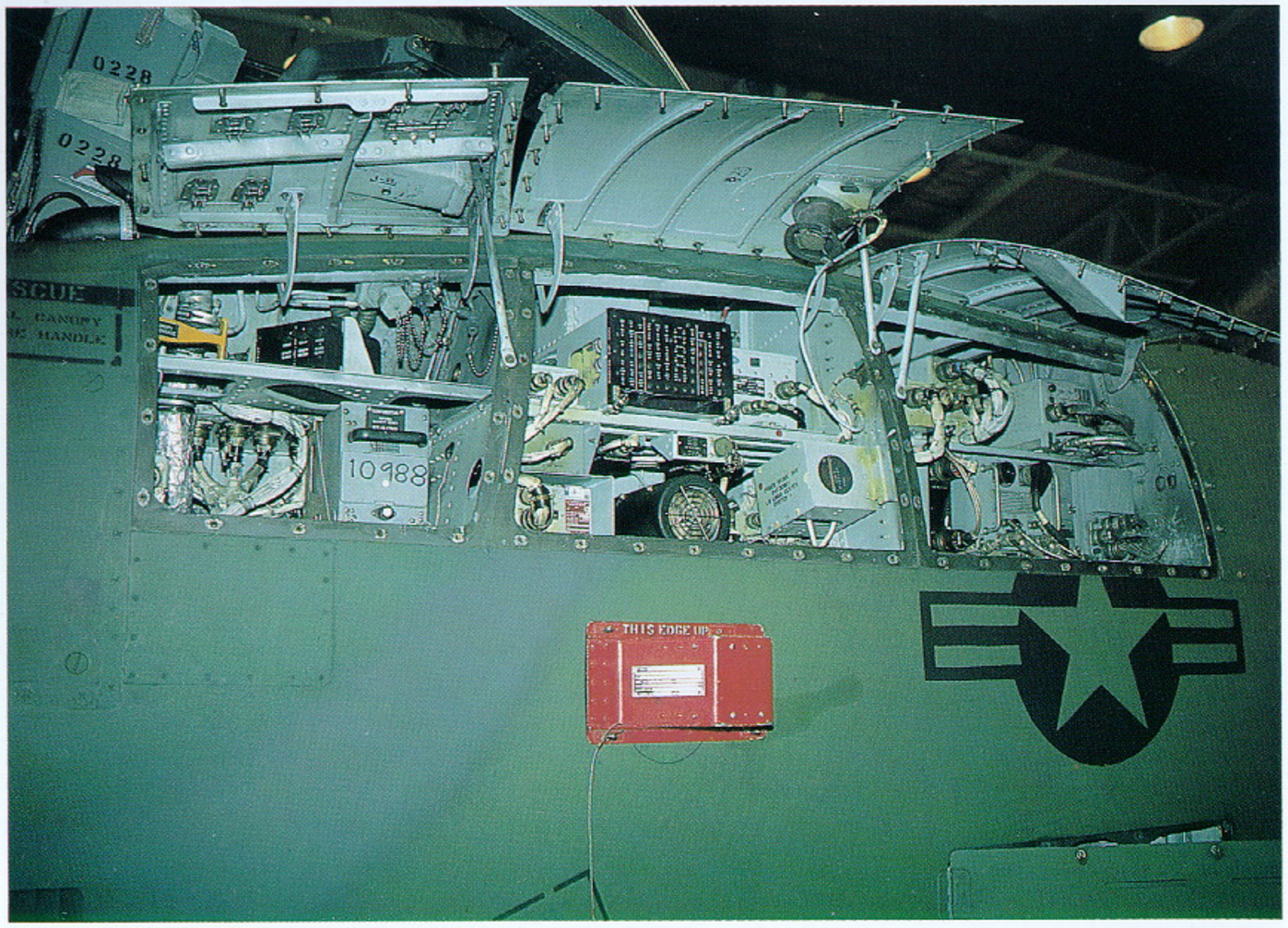
(Right) Easy access to the instruments is obtained by unlocking and lifting the entire windscreen/instrument panel cover, which is hinged at the front as can be seen here. As mentioned before, everything on the A-10 was designed with ease of maintenance in mind.

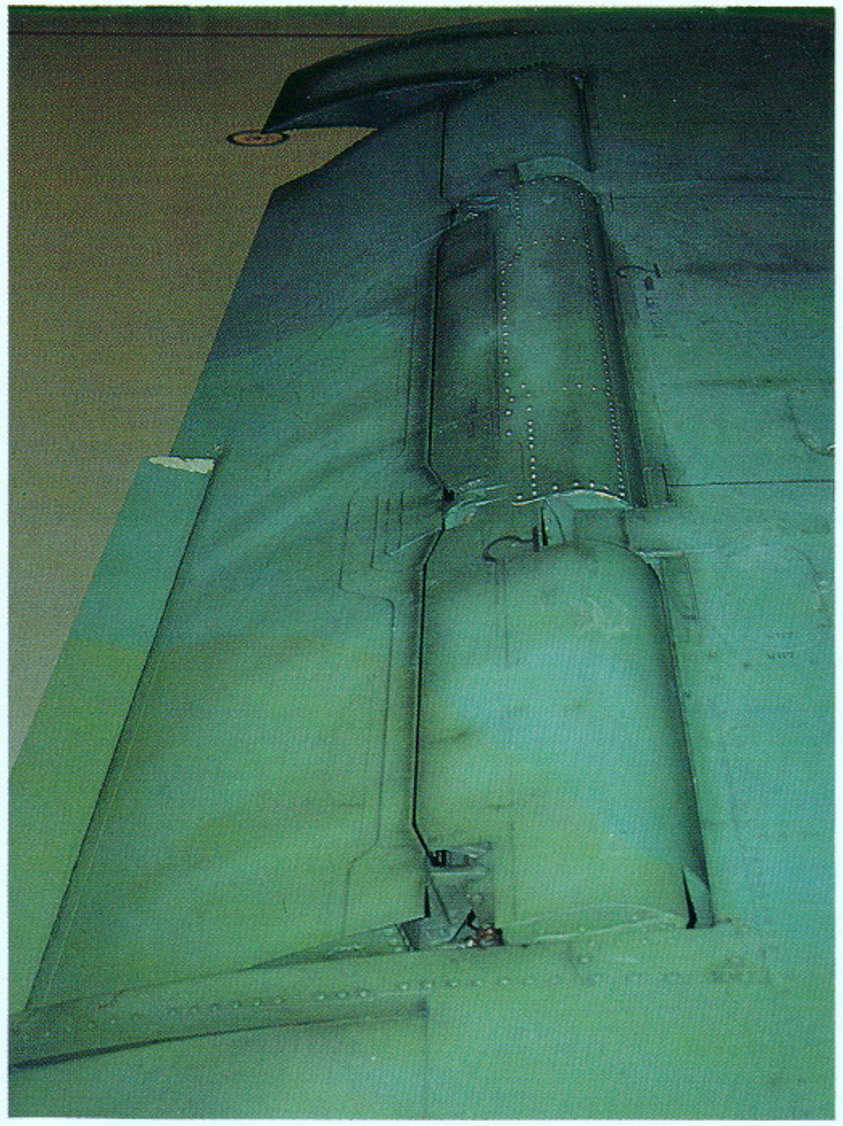
(Below) Open panel F-65 hangs from lightweight web straps, which is uncommon with jet aircraft. The device shown here is the aircraft's battery.

(Below right) panels F-99, F-101 and F-103 on the left side of the fuselage, just aft of the ejection seat. These bays hold much of the avionics equipment.

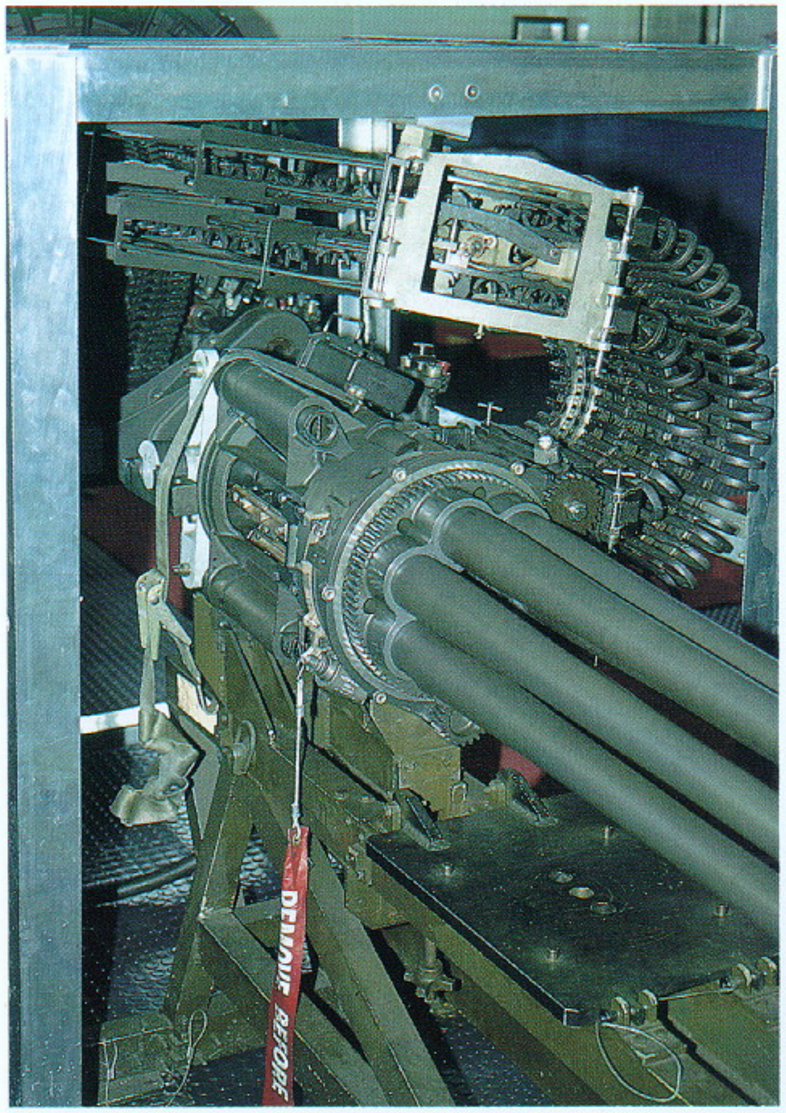


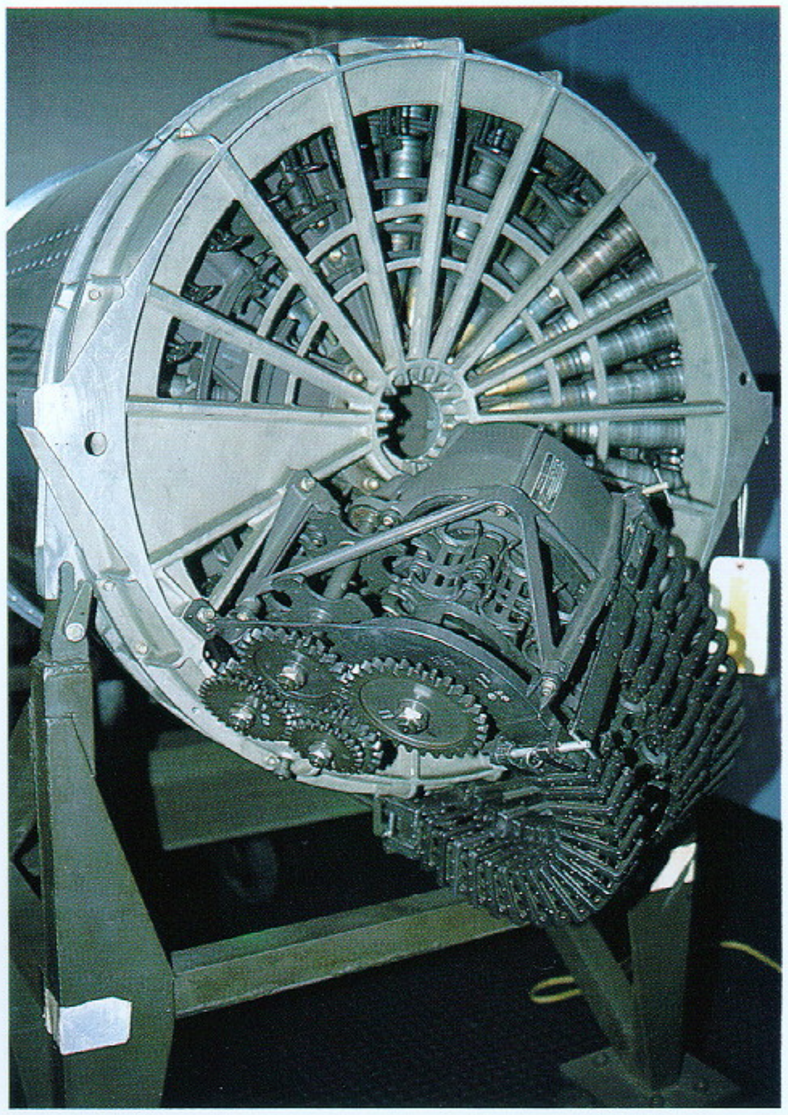


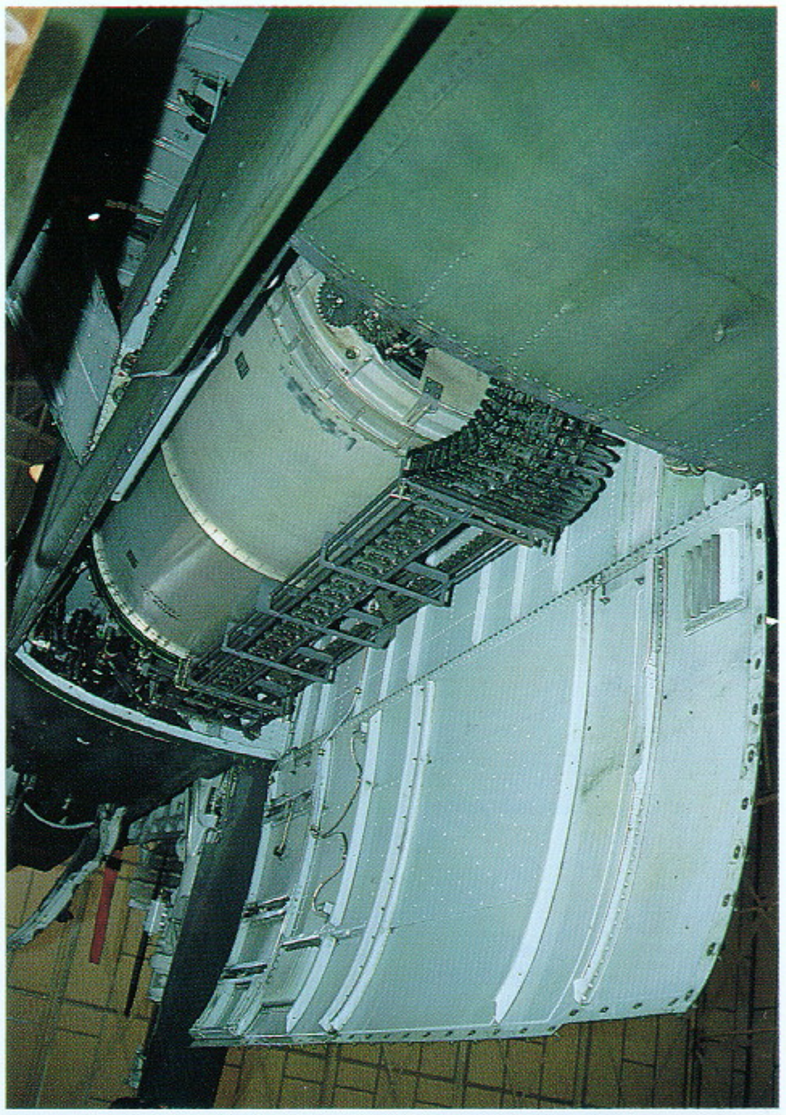




The front top fuselage with the panels described on the previous page at left. Note the shape of the aft side of the hood and the cover plate over the canopy actuating mechanism. Antenna designations can be found on page 20. The small exhaust at right and on top of the fuselage is the INS compartment coolant air outlet.

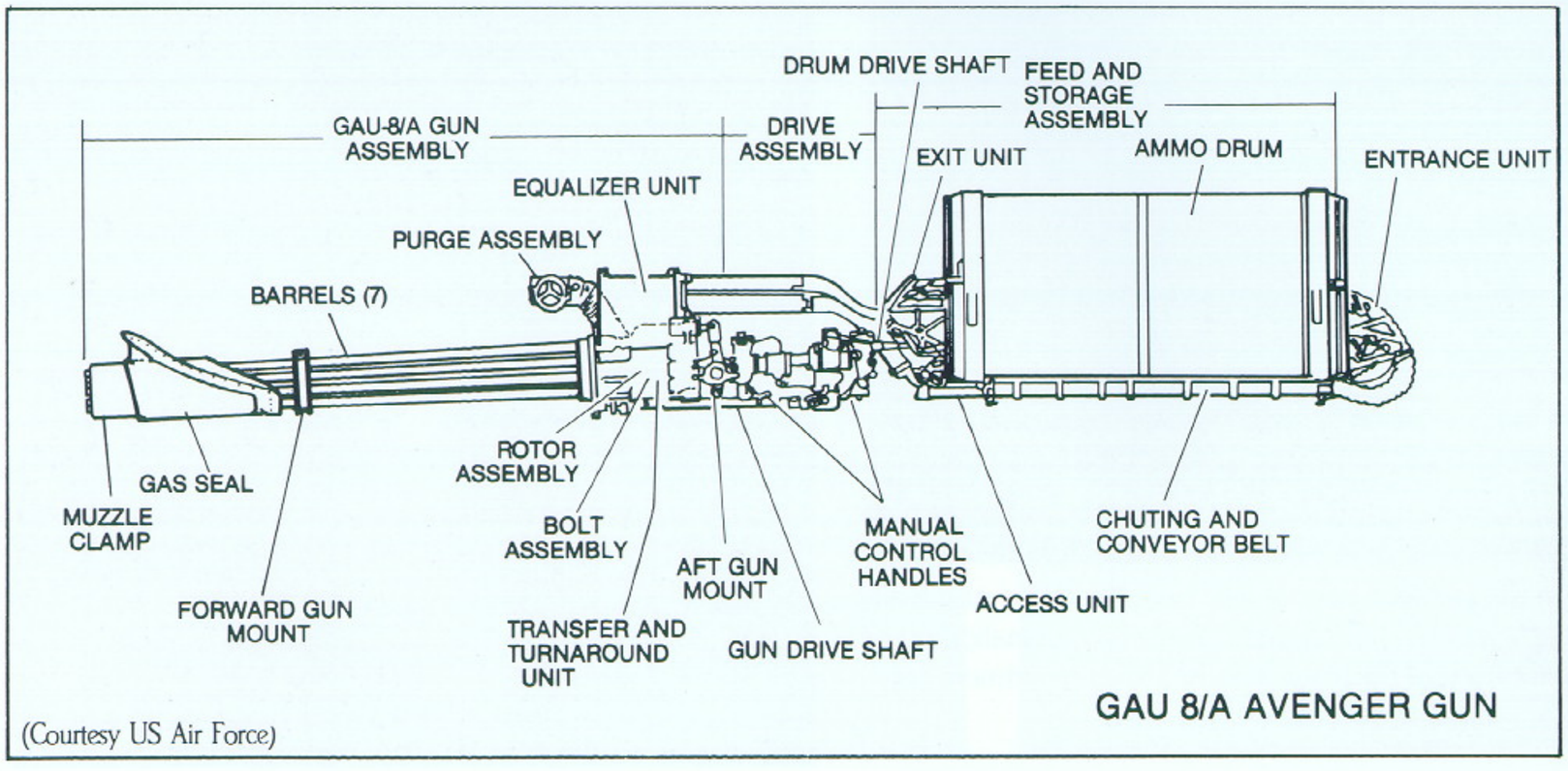






The General Electric GAU-8A "AVENGER" gun of the A-10. Total weight is 4,190 lbs. Unlike the 20mm Vulcan gun, this gun has seven barrels, instead of six, to trow out the 4,200 rounds per minute,driven by dual hydraulic motors. With one motor shut off, the rate drops to 2,100 rounds per minute, or half the rate. Some 30mm shells can be seen in the top middle picture.

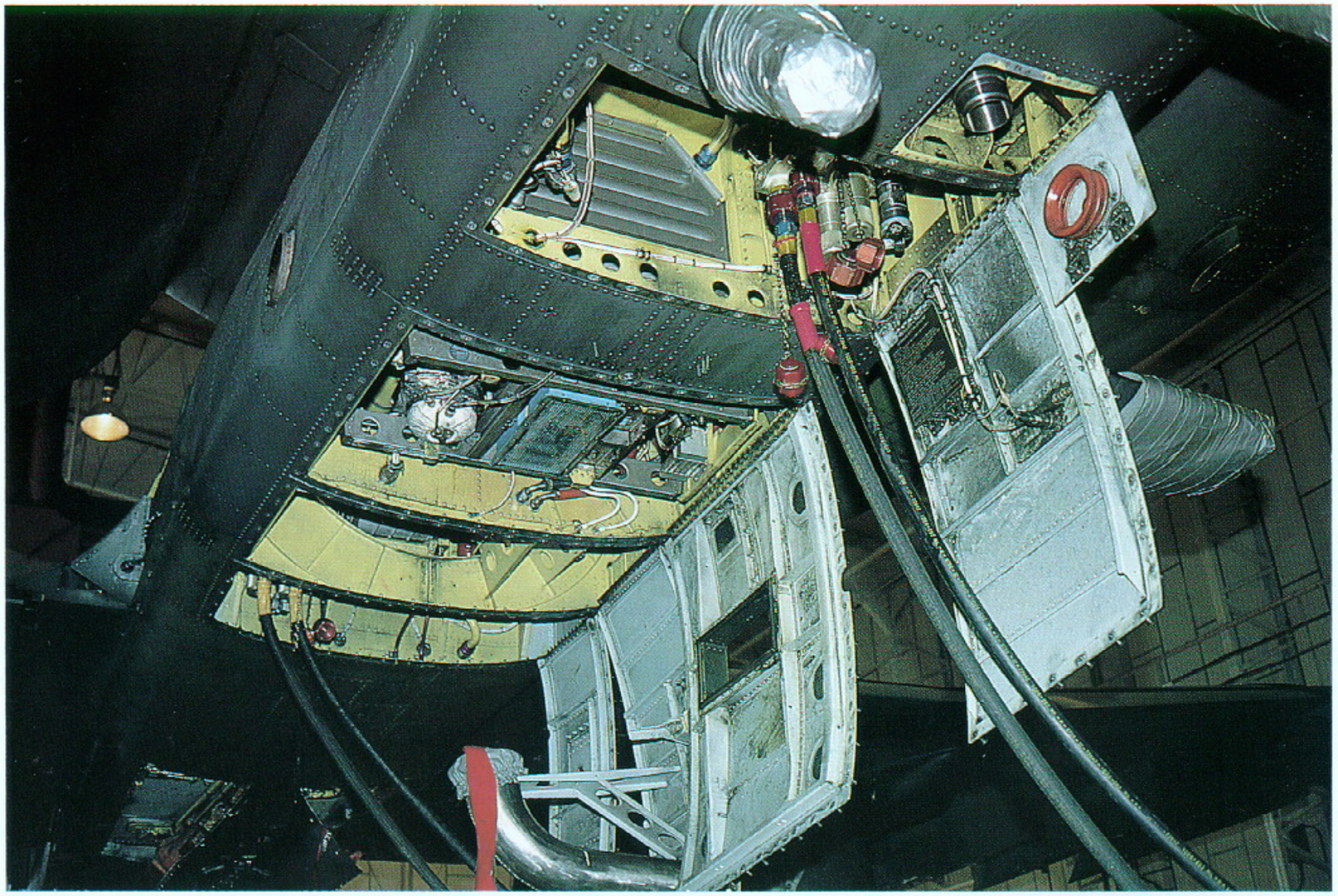
(Right) The enormous ammo drum, capable of holding 1,350 armor piercing rounds. A linkless ammo system helps cutting the weight of the gun assembly. Empty shell cases are not wasted but return to the ammo drum after firing.

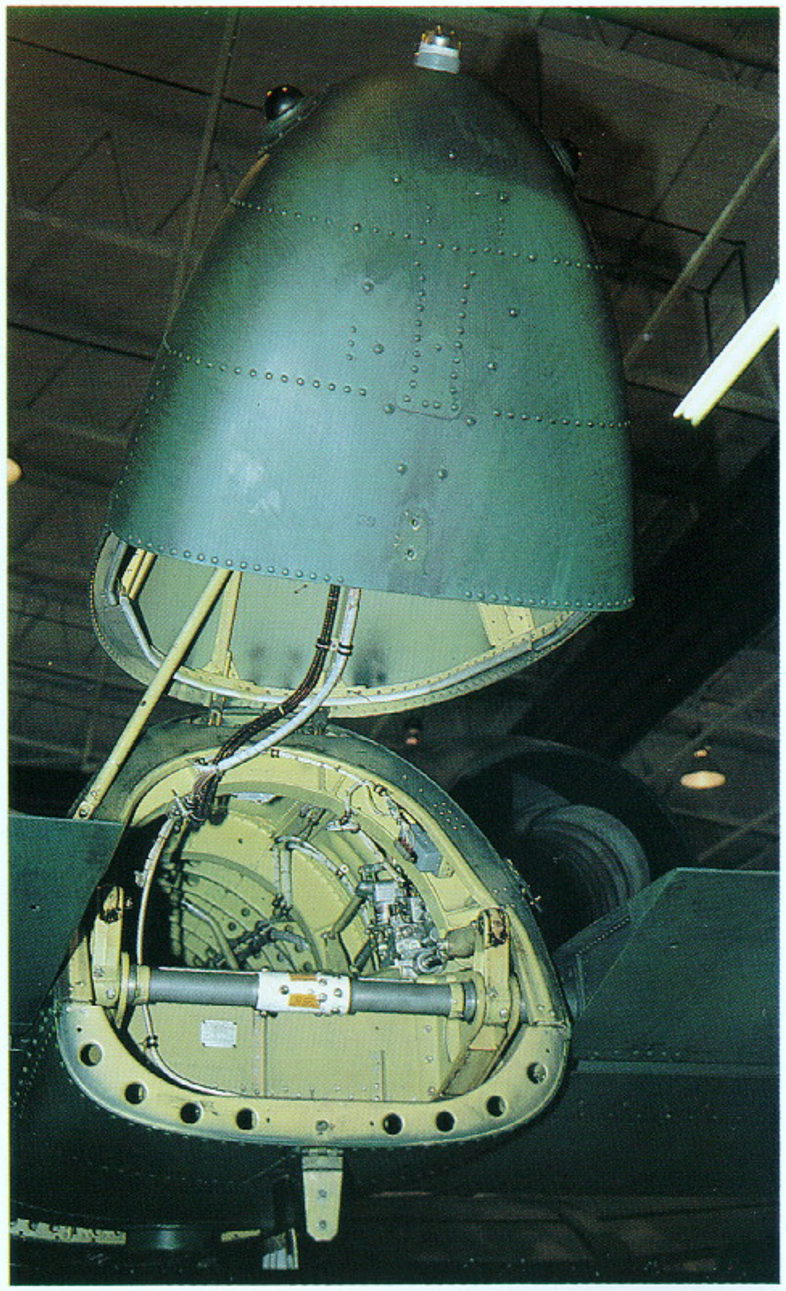


GAU 8/A AVENGER GUN

(Courtesy US Air Force)

Loading the linkless A-10 ammo is done with this special piece of equipment, the Ammunition Loading System (ALS) platform.
The principle is the same as that of the GAU-8/A gun itself. It loads rounds on one side and extracts empty cases simultaneously.
A full load of 4,200 rounds can be changed in less than 12 minutes under forced loading conditions.

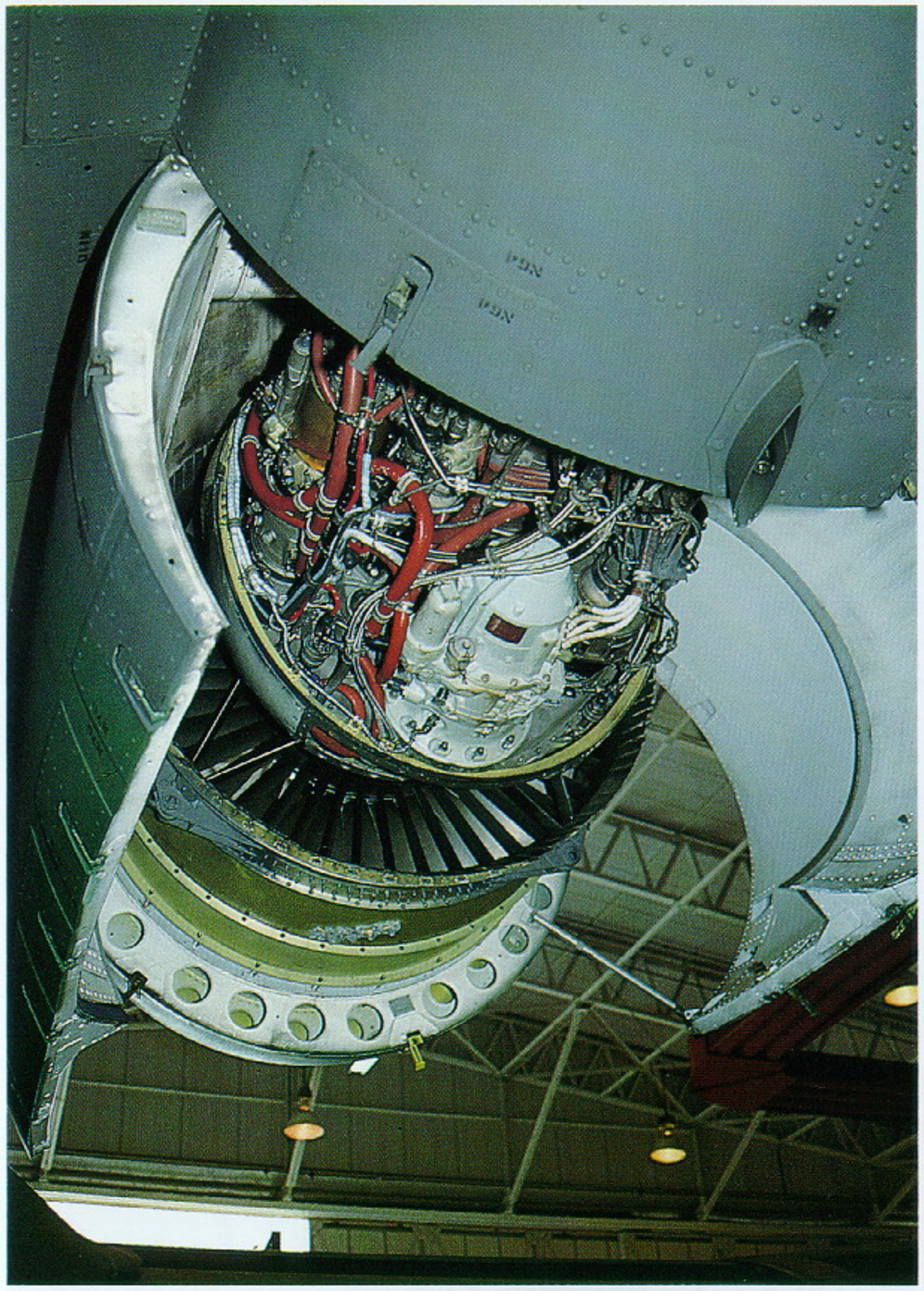


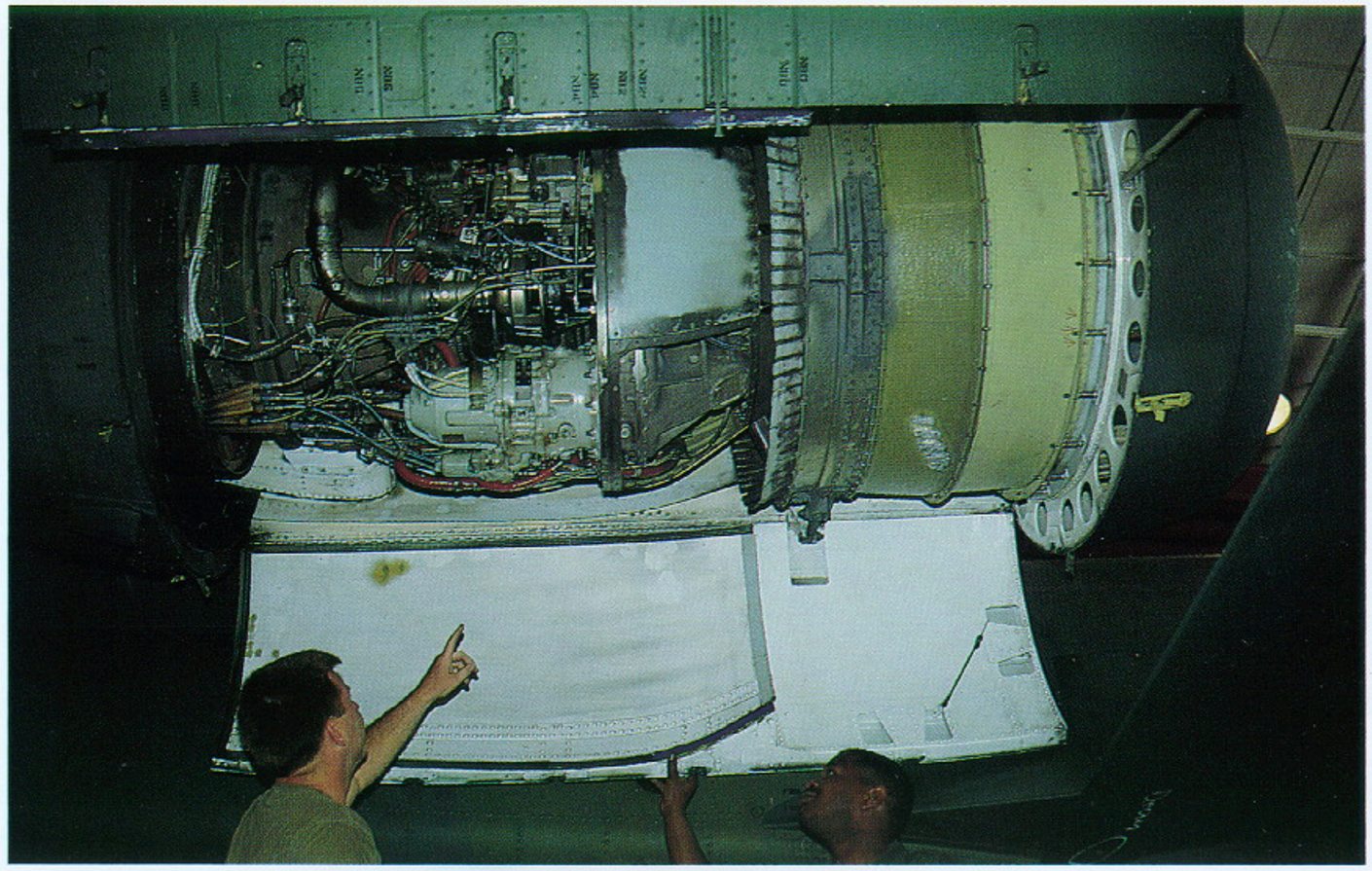


(Top) The complete tailcone can be raised to reveal the hydraulic elevator actuators and the elevator connecting bar. Feed lines running into the tail cone are for the tail-light and the radar warning antennas.

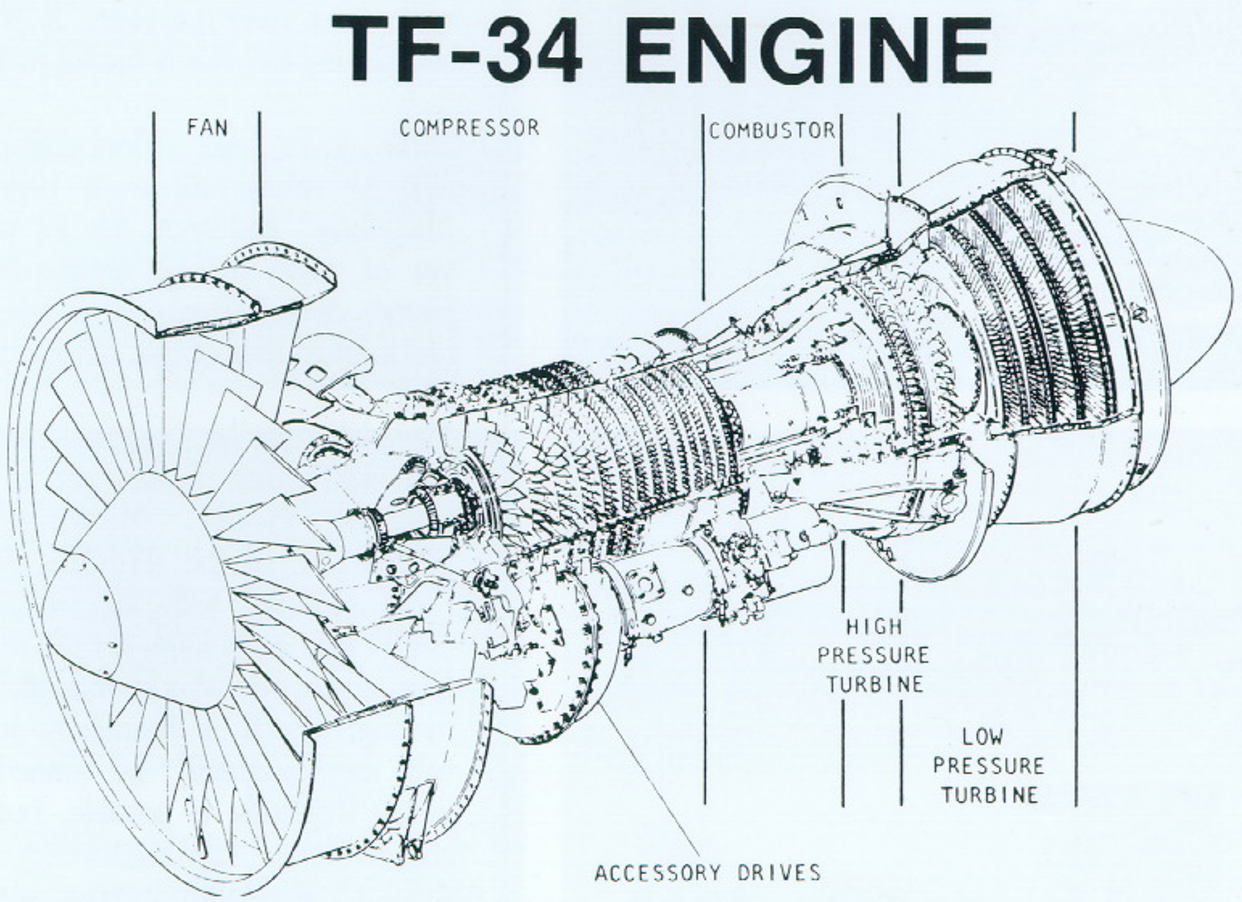
(Top left) Servicing means that external power is needed to feed the systems while checking. The auxiliary power unit (APU) and its sideway exhaust can be seen in the middle of the picture.
Hoses can be seen hooked up to the hydraulic system ground connector. The hydraulic reservoir is located just above it. Note the protective cover over the VHF antenna.

(Left) The same area as on page 7 but with nearly all panels removed. Avionics, circuit breaker panels and control systems are stowed inside these compartments.





The TF-34-100A engine inside its nacelle. The large access doors are peeled open and are secured sideways and outward to facilitate maintenance and check ups of the engine.
The engines are attached to a top mounted pylon with only four bolts, so they can be removed and replaced in no time. Without any adjustments, engines can be changed from left to right nacelle and vice versa.
Engine components are described in the drawing at right.



(Courtesy US Air Force)

Kit Review

The A-10 never was very popular with modelers worldwide, judging from the scarce number of entries in modeling contests. A real shame, because several good kits are available of this magnificent fighting machine.

Many years ago, Tamiya released the A-10 in 1/48th scale (to my knowledge the first "quarter inch" scale release). A great box art and a good quality plastic replica of the A-10 should have convinced the modelers to buy the kit. Although they may have done so, few of these kits reached completion. Perhaps the lack of convincing reference material was the main cause of this.
However, this did not change the mind of the Hasegawa people, who produced a nice scale model on 1/72nd and had it released with an even more appealing box art by the master himself: Shigeo Koike. It must be said, what this man is capable of with a single brush and some paint is beyond belief. The kit itself is no less impressive. Good, crisp moulding and fine detail have become the Hasegawa trade mark over the years. If 1/72nd is the scale you are looking for, this is the kit to buy.

Some years ago, Monogram believed they were able to release an even better 1/48th kit of the "Warthog" and soon this kit was stored in the shelves of many hobby shops. Molded in dark green plastic, overall shape is perfect, nicely detailed parts are numerous and the canopy is the best we've ever seen.
Maverick missiles, external fuel tanks, ECM pods and eight cluster bombs are included to decorate the finished model. Markings are for aircraft BD/79-147 of the 47thTFS, 917thTFG, of the Air Force Reserve, with the very distinctive and attractive Warthog markings on the nose.
One major drawback though, the panel lines and riveting, which is beautifully tooled, are raised and will most certainly be ruined when sanding the joints. Repairing is possible, but will take some time and effort.
Anyway, if 1/48th is your scale, don't let anything stop you from buying this kit.

Photo U.S. Air Force

the world in scale
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